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ORIGINAL ARTICLES.

THE COMPARATIVE VALUE OF THE NEWER TESTS FOR ALBUMIN IN URINE.

BY CHARLES W. PURDY, M.D.

Although the mere presence of albumin in urine can no longer be regarded as anything further than presumptive evidence of damaged kidneys; yet, it has so long formed the basis upon which the diagnosis of renal pathology has been constructed, and, moreover, as an element considered with other symptoms it still holds, and is likely to hold, an important place at least in preliminary investigations of renal disease. Therefore, all matters concerning the most reliable and ready methods of detecting the presence of albumin in urine must remain of practical interest and importance to the general practitioner. Much attention has been given of late to several newly proposed agents for detecting albumin in urine, both in this country and in Europe. Some of these, it has been claimed, are so exceedingly delicate in reaction as to detect the presence of albumin when the older methods, as by heat and nitric acid, failed to do so completely. Furthermore, most of these agents have been indorsed by some of the best authors on renal diseases, both here and abroad.

The general practitioner may, in consequence, encounter some confusion in deciding whether it be wise to accept the newer and readier methods or adhere to the older and long tried agents already in use. It is proper that we should carefully inquire into the relative value and reliability of the newer, as compared with the older tests, with the view of assigning to each their proper spheres in the routine of daily work.

First, then, we shall note the *acidulated brine test*, brought forward by Dr. Roberts in *The Lancet*, Oct. 14, 1882. It is prepared by mixing together a fluid ounce of diluted hydrochloric acid with a pint of water, saturating with chloride of sodium and filtering. It is claimed to be more delicate than Heller's test. It does not discolor the fingers or destroy the clothing in case it be spilled, and after a specimen of urine has been tested by brine for albumin, the *same* specimen may be tested for sugar by Fehling's test.

Picric acid was first brought forward by M. Gallipe in French current literature in 1872. Dr. G. Johnson more fully discussed its merits in *The Lancet* in Nov., 1882; as does also Dr. Pavy. Several articles appeared in that journal on the subject about the close of 1882 and the early part of 1883. The test solution is made by saturating boiling water with picric acid, and it may be applied by the contact method, viz.: by allowing the picric acid solution to flow down a glass rod, or pipette, over the surface of the urine, which latter must be previously treated with saturated solution of citric acid. If albumin be present, a white cloud is perceptible at the junction of the two fluids.

Tauret's test, or the potassio mercuric iodide solution, may be prepared as follows: potas. iodide 3.22 grammes, and hydrargyri bichloridi 1.35 gramme, are added to 100 cc. of distilled water and filtered. This salt was first proposed as a test for albumin by Tauret, of Troyes, in 1872. Mr. Guy Neville Stephen first called attention to its comparative value in *The London Lancet*. Its method of application is essentially the same as that of picric acid, previously having acidulated the urine with citric or acetic acid. It is claimed to be more sensitive in reaction with albumin than heat and nitric acid, that it is cleanly to handle, very permanent, and almost perfectly clear in solution.

Sodium tungstate was first proposed as a test for albumin by Dr. G. Oliver, of Harrowgate, in *The London Lancet*, Feb. 3, 1883. His method of preparing the test solution is as follows: a mixture of equal parts is made of saturated solutions of sodium tungstate (one in four) and of citric acid (ten in six) in water. It is claimed to be "an albumin precipitant of great delicacy, devoid of objectionable qualities."

Dr. Oliver also proposes in the same number of *The Lancet* as a test for albumin, the potassio mercuric iodo cyanide, but as this is practically the same test as the one last described, it is needless to consider it further.

Potassium ferrocyanide test is simply a saturated solution of the above salt in water. Its application is made by previously acidifying the urine with acetic acid, and adding the ferrocyanide solution, when, if albumin be present, a white cloud is at once formed. This was proposed by Bödeker as a volumetric test for albumin. Dr. Pavy proposed subsequently to make the test with citric, instead of acetic acid, and he also introduced the pellets (compressed) of sodic ferrocyanide and citric acid, which are simply crushed and placed in a test tube containing the suspected urine, agitating without heat.

Dr. Oliver first prepared all of these tests, save

brine, in portable form, so that they could be carried in the pocket-book, and applied at the bedside of the patient. His method consisted in saturating chemically inert filtering paper with the test solutions, and cutting the papers into small strips. An acid paper was also prepared by saturating filtering paper with strong solution of citric acid. The application of these tests are as follows: A small test tube is used, with a capacity of say 60 minims. This is filled about half full of the suspected urine, and a citric paper is rolled up and thrown into the tube. After agitating for a minute or so, one of the other papers is added, say the potassio mercuric iodide, or ferrocyanic, and if albumin be present, a white cloud at once forms about the last paper introduced.

Dr. Oliver has also prepared what he terms the compound papers, made by joining together a citric paper with one of the others. This simplifies the application of the test, inasmuch as but one paper need be used in testing. A full account of these test papers, and their application, is best told in Dr. Oliver's own words, which is done in *The London Lancet*, Jan. 27 and Feb. 3, 1883, or in a small book issued by himself on "Bedside Urinary Tests."

The carbolic acid test, in any of its forms, I have not used, for reasons which will become obvious to any one who tries it in detecting the smaller traces of albumin.

The above, then, in the main, are the newer tests proposed for detecting albumin in urine. It is proper that we next inquire into their advantages and disadvantages, in order to properly estimate their relative values. What I shall say upon this point is the result of a series of experiments with all of these agents, extending over the past eight months, or perhaps a little longer.

As to the test papers, Messrs. E. H. Sargent & Co., 125 State street, Chicago, kindly prepared, at my suggestion, about ten months ago, all these papers, according to Dr. Oliver's method; and as they have been in stock since, they may be procured by any one desiring to try them for themselves. I also procured, about eight months since, through Mr. Hawksley, 357 Oxford street, London, two complete series of Dr. Oliver's own papers, for the purpose of trial; and with all these, I have made careful and repeated experiments. I prefer the potassio mercuric iodide and tungstate papers to all others.

The most serious objection, perhaps, to all these newer tests, is the fact that they give a reaction with other matters, occasionally present in the urine, such as peptone, mucin, parapeptone, and urates, and, moreover, if the patient be taking certain of the vegetable alkaloids, (notably quinine,) or oleo-resins, or some of the alkalies, or even alcohol in considerable quantities, before the urine is voided, a similar reaction occurs, *none of which are distinguishable from albumin precipitate, without the additional employment of heat to the test;* and the latter in some cases decomposes the test solution, (notably the ferrocyanic.)

I think it may be laid down as a rule, to which I at least know of no exception, that *no test for albumin in urine is absolutely reliable unless combined with or followed by heat.* At a temperature of 72° to 75° C. serum albumin coagulates and becomes insoluble in *acid solutions;* and if of any quantity, the insolubility is perceptible in clear solutions in the formation of a more or less opaque cloud. I know of no other bodies met with in the urine, if that fluid be clear, and acid in reaction, which will give a similar reaction.

Of course, in dealing with urine where the amount of albumin is large, most of the ordinary tests are sufficiently accurate to determine its presence beyond reasonable doubt; because phosphates, urates, peptones, mucin, bacteria, or other bodies, which may give a precipitate simulating closely albumin, are almost never present in sufficiently large quantities to throw down a coagulum of the density, appearance and extent of albumin, when present even in moderately large quantities. And hence in those precipitates, filling, say a third, or half of the test tube, we are reasonably safe in assuming at least that albumin is present, whatever else may be also, though the reaction be brought about by most any of the tests in ordinary use.

As to the brine test of Dr. Roberts: it is cleanly, does not soil the hands, or clothing, keeps well, is easily applied, and is a very delicate reagent. In testing for very small traces of albumin, however, it is inferior to two or three others, and one reason for this may be, that it requires so large a quantity of the solution to cause a reaction, that it very much dilutes the urine, rendering detection of albumin in small quantity more difficult.

The sodium tungstate test does not stain, is very clear (the most so of all); its reaction is a little slower than some of the others, but extremely delicate, and properly applied is one of the best of all. It will not answer to apply this test as some of the others are done, namely, to acidify the urine first, and then add the tungstate solution, because an excess of the tungstate may get into the urine and render it inoperative, for it must not be forgotten that tungstate of sodium solution *in excess* in the presence of an acid *dissolves both egg and serum albumin.* We must thus use the test solution, as advised by Dr. Oliver, already described, to make it reliable.*

The picric acid test seems to have excited more discussion than any of the others. It will quickly react with albumin in small quantities, but it has some serious drawbacks for general use. If allowed to mix with the urine (and it is not always possible to prevent this) it colors that fluid yellow, which is unfavorable for detecting faint traces of albumin. Again, if picric acid comes in contact with the fingers (and it often does in manipulating) it leaves ugly stains behind for many days.

In a paper on the "*Clinical Diagnosis of Bright's Disease*," which I presented to the Chicago Medical Society a year ago, I mentioned that I had been in the habit for years of estimating the approximate quantity of albumin in urine by the potassio ferrocyanide solution and acetic acid. Subsequent use in my hands shows that it much less frequently produces

* I have observed that by previously heating the albumin solution to 212° the tungstate in excess will not dissolve it afterwards.

a precipitate with other bodies than albumin, in comparison to the other newer tests.

My reasons for using this test so much in daily work are as follows: In addition to being a fairly sensitive test, as to presence of albumin, it is a fair working volumetric test. I do not mean by this that it is to be absolutely relied upon as an accurate volumetric test, but rather that it will indicate sufficiently accurately the *relative amount* of albumin from day to day to make it valuable as a ready method of comparison in following cases of albuminuria. In using the test, I use a graduated tube, and as the albumin subsides to the bottom after a few hours (twelve) its quantity by bulk may be read off from the scale on the side of the tube and noted at each examination. I now do not use this solution for detecting the *presence* of albumin, because, in doubtful cases, the test can not be corrected by heat; the latter at once decomposes the ferrocyanide salt with an acid, liberating hydrocyanic acid, and producing a white turbidity in the solution, which might be taken for albumin.

The potassio mercuric iodide solution is an extremely delicate test (about equal to tungstate), very quick in reaction, almost clear (slightly bluish), keeps well, and is readily applied.

I have noted one objection which the tungstate does not possess, namely after the test is applied, it cannot be set aside and examined again satisfactorily. The potassio mercuric salt, in the presence of an acid, soon begins to decompose, liberating free iodine which discolors the solution and renders faint traces of albumin difficult to distinguish. This does not so materially detract from the value of the test, as the reaction is not immediate, and it is slow.

Now as to the relative sensitiveness of these tests. Dr. Oliver says, "as a result of many observations and experiments, that in his opinion, one part of albumin may be discovered in 20,000 by the iodo mercuric, picric and tungstate tests; in 10,000 to 12,000 by the ferrocyanide and brine tests, and in 6,000 to 7,000 by the heat and nitric acid tests."

The following are the details of some of my experiments, made with the view of satisfying myself on this point:

The urine of one of my patients was subjected to experiment, who was convalescing from acute Bright's disease. The urine, when experimented upon, contained a trace of albumin, was acid in reaction, sp. gr. at 60° F. was 1022, and contained a few epithelial casts.

1. On the undiluted urine all tests showed the presence of albumen.

2. 50 cc of the urine was diluted with 50 cc of distilled water, and the following noted. Reaction still apparent with all tests.

3. 50 cc of the above was diluted with 50 cc of distilled water, and the following noted. Reaction perceptible with mercuric, tungstate, and picric tests. The others were negative.

4. 50 cc of the above was diluted with 50 cc of distilled water, and the following noted. Mercuric and tungstate test showed faint change; all the others were negative.

The urine of a patient under my charge was next subjected to experiment, who was suffering from slight chronic nephritis (parenchymatous). The urine, when experimented upon, was normal in appearance, and reaction at 60° F., sp. gr. was 1025. A slight trace of albumin was present. The microscope showed a few granular casts and renal epithelium.

1. On the undiluted urine all the tests gave reaction, showing presence of albumen.

2. On diluting 50 cc of the urine, with 50 cc of distilled water, the following was noted. Mercuric, picric and tungstate tests gave reaction. The other tests were negative.

3. 50 cc of the above was diluted with 50 cc of distilled water, and the following noted. The mercuric and tungstate tests still gave faint turbidity. The other tests were negative.

4. 50 cc of above was diluted with 50 cc of distilled water, when all the tests failed to show any change whatever.

The urine of a patient, who was suffering from chronic interstitial nephritis (granular atrophy) was subjected to experiment. Having been under my charge for a year and a half, I knew his urine to average a small amount of albumin (6 to 8 per cent. by bulk) and to contain a few hyaline casts, sp. gr. (at 60° F.) ranged from 1008 to 1018, and reaction usually neutral or alkaline.* It was the latter when experimented upon.

1. Observations on the undiluted urine showed presence of albumin by all tests.

2. 50 cc of the urine was diluted with 50 cc of distilled water, when all tests still showed presence of albumin.

3. 50 cc of above was diluted with 100 cc of distilled water, and the following was noted. Mercuric, tungstate and picric tests showed faint reaction. All others negative.

4. 50 cc of above was diluted with 50 cc of distilled water, and all tests failed to show any perceptible change.

These experiments, and in fact all my experiments, were conducted with the same quantity of urine or solution operated upon in each case, and similar size and make of test tubes were used in all cases. Now with reference to the reaction of certain of these newer tests in dilutions beyond the point where heat and nitric acid fails to give any change. *Is this reaction albuminous?* If it be albumin in minute traces, which these so-called more delicate tests show, where heat and nitric acid fail; it would go far towards proving what Gubler first suggested, in 1865, and afterwards Ultzman, in 1870; and J. Vogel, in 1873; and Johnson, of London, in 1883: namely that traces of albumin may be a constituent of normal urine. While I know of no reason why traces of albumin (probably untransformed) should not be present in normal urine (as sugar is now known to be), if, as M. Leube† claims repeatedly, to have found it present in cutaneous sweat. But before accepting the above as fact, it must first be shown con-

*Autopsy since showed both kidneys contracted and granular; the left weighed 2¾, and the right one less than 3 ounces.

†Virchow's Archiv, Band 48, p. 181.

clusively that certain substances known to exist in urine, closely allied to albumin, are not the ones which these newer tests give reaction with instead of albumin. Bence Jones refers to a peculiar case of this kind.* Baylon describes an albuminoid substance under the name of albuminose, which is said to occur also in normal urine. Peptone-like bodies were found by O. Schultzen and L. Reiss in urine after phosphorus poisoning.† The identity of thi s peptone-like substance with true albumin peptones is still doubtful. Finally, according to Bechamp, a protean substance can be precipitated from *every normal urine* by three times its weight of 88 to 90 per cent. alcohol, which, after washing, is soluble in water. Bechamp has given it the name of nephrozymose.‡ It has furthermore been stated on high authority, that no test yet known will detect albumin in traces more minute than will the old heat and nitric acid test.

I have conducted a number of experiments with the view of throwing, if possible, more light upon this question, from which I select the following as examples:

First, I prepared a sample of pure blood serum from a healthy man, secured during traumatic hæmorrhage (epistaxis).

1. 50 cc of the above blood serum was diluted with 100 cc of distilled water and double filtered, and on testing the following was noted. The mercuric, brine, tungstate, ferrocyanic and heat and acid (nitric) gave very distinct reaction, showing albumin.

2. 50 cc of the above was diluted with 100 cc of distilled water, and still all tests gave reaction (positive.)

3. 50 cc of the last dilution was mixed with 100 cc of distilled water, and the following was noted. The mercuric, tungstate and brine tests gave the most distinct change. Heat and nitric acid, and ferrocyanic tests were still positive, but considerably fainter.

4. 50 cc of last dilution was added to 50 cc of distilled water, and the following noted. Mercuric and tungstate tests gave the most distinct change. Heat and nitric acid and brine were the faintest.

5. 50 cc of last dilution was added to 50 cc of distilled water, and the following noted. Heat and nitric acid practically failed to show any change, as did also brine. The mercuric and tungstate tests showed distinct change (positive.)

6. 50 cc of last dilution was still further diluted with 50 cc of distilled water, and the following noted. Heat and nitric acid and brine failed (negative.) The mercuric and tungstate gave distinct change (positive.) The temperature of the mercuric and tungstate tests was raised to 212° F. over a spirit lamp. The opacity was *not in the least cleared* thereby.

7. 50 cc of last dilution was further diluted with 50 cc of distilled water, and the following noted. The mercuric and tungstate tests gave perceptible reaction (positive.) The others failed (negative.)

8. 50 cc of last dilution was still further diluted with 50 cc of distilled water, and tests applied as before. The mercuric and tungstate tests both showed very faint but perceptible change (positive.) The others all failed as before.

9. 50 cc of the last dilution was further diluted with 50 cc of distilled water. The mercuric and tungstate tests now failed to show any change whatever. A tube of the diluted serum was compared with the tungstate and mercuric tests, and examined in various lights, but no difference could be distinguished.

The next experiment in this connection was as follows in general terms: The serum was obtained from a vesicated surface on a healthy man (save neuralgia.) The agent employed to produce the blister was cantharidal collodion. The experiment with this serum was conducted precisely similar to the last described, and gave substantially the same results.

I next experimented upon the fresh blood serum (18 hours after death) of a healthy pig; the blood being withdrawn from the carotid artery in killing the animal for use. The experiments with this serum were conducted similarly to those on the human blood serum, and the results were almost the same. A slight difference in favor of the heat and nitric acid test seemed to exist, that is to say, the heat and nitric acid test seemed to give positive reaction a little longer than in the case of human serum, but the mercuric and tungstate tests *unquestionably* detected the albumen diluted beyond the point where heat and nitric acid failed.

I next took 10 cc of human blood serum (from epistaxis case), and after diluting it with 90 cc of distilled water, I precipitated the paraglobulin therefrom, and double filtered. The solution was submitted to the same tests with substantially the same results. The mercuric and tungstate tests unquestionably showing distinct reactions considerably beyond the point of dilution, where heat and nitric acid failed to show any change.

In the case of egg albumen, however, the results will be found altogether different, as I have observed repeatedly; for instance, I took a weak solution of egg albumen in distilled water, and selecting as the most delicate tests, the potassio mercuric iodide and tungstate of sodium, I compared them carefully with the results of the heat and nitric acid test, which were as follows:

1. On the solution, as prepared, all three tests reacted distinctly (positive), showing albumen precipitate.

2. 50 cc of the solution was diluted with 50 cc of distilled water, when all three tests still showed reaction positive.

3. 50 cc of last solution was next diluted with 100 cc of distilled water, when all three gave reaction, though faint. The heat and acid, if anything, most distinct.

4. 50 cc of last solution was next diluted with 50 cc of distilled water, and the following noted. The heat and acid and mercuric tests gave a faint but perceptible change, distinguishable only on comparing them with a similar sized tube of distilled water, in

*Annalen A. Chem. u. Pharm., Band 67, pp. 97 to 105.
†Annalen des Charité Krankenhauses zu Berlin, Band 15, p. 9.
‡Neubauer and Vogel's Analysis of Urine, p. 100, (1879.)

front of a dark background. No change could be perceived with the tungstic test.

5. 50 cc of last solution was next diluted with 50 cc of distilled water, and the three tests applied. On holding them side by side, in various lights, no appreciable difference could be distinguished between any of the tests and a similar tube of distilled water, though examined by several individuals.

Thus it would seem there is a greater difference between the two native albumens (egg and scrum) than has been generally supposed. I believe that heat and nitric acid is a peculiarly delicate and appropriate test for the former, as I have noted in testing, in the presence of minute traces of egg albumen in distilled water, that the reaction produced by heat and nitric acid is considerably more pronounced than by any other test. The coagulum seems more dense and opaque, but it is about equal to the mercuric test as to minuteness of quantity it will detect.

Now as to physiological albuminuria, so-called. It is surprising how many people in apparently perfect health have small traces of albumin in their urine; even by the heat and nitric acid test, if properly and carefully applied, it will probably show traces of albumin in 8 or 10 per cent. of such individuals. I believe, as a result of my own observations, that the majority of people of all ages have traces of albumin in their urine, either occasionally or constantly, as determined by the mercuric and tungstic tests.

A number of observers, Senator, Leube, and lastly Chateaubourg, have recorded results from examinations on a large scale, which are quite startling to believers in the pathological significence of albumin in small quantities in urine. Chateaubourg, of Paris,* within the past year, has made a large number of examinations on healthy individuals, of which the following are a few of the results: 98 soldiers, from twenty-one to twenty-five years of age, were first selected and their urine obtained on *Monday* (hence there was no fatigue duty the day previous), 3 hours after the midday meal. Of the 98 samples, 44 showed the presence of albumin.

In July, 1883, he tested the urine of 94 soldiers, five hours after a meal, and 76 contained albumin, 82 per cent. He examined, at the *Hôpital des Enfants Assistés*, the urine of 142 healthy children, from 6 to 15 years of age, 111 of which contained albumin. Of 231 soldiers, on fatigue duty, whose urine was examined, he found albumin in 201 cases. I believe the test used by Chateaubourg was the potassio mercuric iodide. It cannot be claimed, that in all these cases the albumin was the result of pathological change, however slight; for Chateaubourg distinctly says, the urine of many of these cases was submitted to the microscope without finding any evidence of kidney lesion.

I have personally obtained very similar results from observations on a considerable (though smaller) number of cases. I have examined the urine of many healthy persons, where the urine was otherwise normal, save that it showed the presence of albumin on the application of the mercuric and tungstate tests, but no reaction could be found with the heat and nitric acid, however applied. When I say, the urine of these persons was normal, I mean in appearance, sp. gr., in quantity and reaction, and I carefully examined it with the microscope, going over several slides, but failed to find casts, renal epithelium, or bacteria.

It may be thought, perhaps, by strong believers in the delicacy of the heat and nitric acid test, that where it failed, and other tests showed albuminous reaction, the failure may have been due to want of the precautions necessary to insure success. So far as my own manipulations at least are concerned, this could not very well be the case. I am aware of the fact, that of all tests the heat and nitric acid requires the most care and precaution to insure accuracy.

One of the most serious objections to the heat and nitric acid test, especially in cases where albumin is present only in small quantity, is the fact that if the acid be not added in sufficient quantity, we sometimes fail to get any change; and, on the other hand, if too much acid be added, it will dissolve small traces of albumin: thus in either case the test may be negative.

My friend Prof. Walter S. Haines, of Rush College, has suggested to me a method of procedure, which I think obviates this difficulty. In applying the nitric acid to the urine, he inclines the test tube quite obliquely, and thus allows the acid to flow slowly down the side of the tube and through the urine (which latter it does owing to its greater gravity) to the bottom, leaving behind, the urine acidified in increasing intensity, each layer from the surface to the bottom. Some of these strata will be found of exactly the proper acidity to give the albuminous reaction.

In all cases where heat and nitric acid failed, and other tests showed any change, the former was given the benefit of most careful application, *and repetition* in several forms, among others the double method of Dr. Brown-Sequard,* was *always tried;* also the method of complete cooling and re-application of heat, as advised by Tyson.† In fact, the heat and nitric acid test was given by far the most care and attention of all, because, after the results obtained with it on egg albumen, I was working under the conviction that the heat and acid test would, *if properly applied*, reveal the presence of albumin, where any other known test would do so; for I had made my observations on egg albumen before I had experimented upon blood serum.

From the sum of my observations I draw the following deductions:

First:—That certain of these newer tests, as the potassio mercuric iodide, sodium tungstate, picric acid, and perhaps the brine and ferrocyanic, will detect *serum albumin* in more minute quantities than will the heat and nitric acid test.

Second:—That the most delicate and reliable of these, and possessing the fewest objections, are the potassio mercuric iodide and sodium tungstate tests.

Third:—That the test papers of Dr. Oliver, especially the sodium tungstate and potassio mercuric

*Chateaubourg Recherches sur l'Albuminurie Physiologique, Paris, 1883.

*Archives of Scientific and Practical Medicine, 1873.
†Practical Examination of Urine, 1883.

iodide, are handy measures for preliminary examinations of urine at the bedside of the patient for determining the presence of albumin in the urine.

Fourth:—That to be entirely reliable, the correcting influence of heat must be employed in applying all these newer tests.

Fifth:—That the potassio mercuric iodide, and sodium tungstate tests, and also the test papers of Dr. Oliver, are undoubtedly valuable acquisitions to our resources; inasmuch that through their greater delicacy and more ready applicability, they are likely to lead more frequently to resort to the microscope, and thus detect the early stages of certain forms of nephritis, which might otherwise escape observation, till too late to save or prolong life.

Sixth:—That the question of the near future, as to albumin in urine is likely to be, not only is it present, but *what quantity of albumin in the urine constitutes a pathological condition?* and this question must be largely determined by the microscope.

68 MADISON ST.

EXPECTANT TREATMENT IN SOME CASES OF ABORTION.

BY ADDISON H. FOSTER, M.D.

Mrs. A., American, aged 30, multipara, was taken, Christmas day, 1877, with severe labor pains, and expelled a four months' fœtus with very little hæmorrhage.

She being very fleshy, the firmly contracted os could barely be reached, and no active interference for the delivery of the placenta was advised. After a rest in bed for a week the patient was allowed to resume her usual household duties. Every few days a little hæmorrhage occurred, with some pain, and about once a month a portion of the placenta was expelled, until the 30th of April, or after four months, the last piece, the size of the thumb, came away as fresh and healthy as any before it. There never occurred any serious hæmorrhage or severe pains during the four months, and very little medicine was taken. The patient often went to town on the street-cars, a ride of over two and one-half miles; was in bed but a few days in all, and never had any symptoms of inflammation, and repeated digital examinations always disclosed a firmly-contracted os, with no tenderness. She helped to move May 1, and made an excellent recovery without any untoward result.

August 15, 1880, she again aborted at the fourth month, the placenta remaining under circumstances similar to the first. Upon getting up, after a week, considerable hæmorrhage and local tenderness occurred. A tampon of carbolized cotton arrested the hæmorrhage and allayed all the tenderness, so that the patient was up and about immediately, until October 18, when the secundines came away entire with very little hæmorrhage, and no local tenderness or troubles followed.

In March, 1881, she again aborted at about three months, and the placenta was discharged entire in two weeks, with no serious hæmorrhage. She was doing well until one cold evening two days after, contrary to orders, she got up and went to the theater, bringing on considerable metro-cellulitis, which was aggravated almost constantly by the obstinacy of the patient in refusing to remain quiet. I believe she would have had no complications if she had rested in bed for two weeks.

This case illustrates others in my experience, where, with a firmly contracted os and *no* material hæmorrhage, especially in a fleshy patient, with the uterus beyond easy reach without introducing the hand into the vagina, the organ is left to the efforts of nature, with satisfactory results.

Repeatedly I have seen the placenta expelled a few days after the use of the carbolized tampon, with very little hæmorrhage, pain, or subsequent trouble, when the pain and tenderness had been considerable before the tampon was used.

Hence I am advocating the "vis conservatrix naturæ" in occasional cases of abortion, rather than *constant* violent manual interference in every case, of whatever nature.

SUGGESTIONS ON THE EXAMINATION OF THE EYES OF APPLICANTS FOR PENSION.

BY J. L. THOMPSON, M.D., PROFESSOR OF EYE AND EAR DISEASES IN THE MEDICAL COLLEGE OF INDIANA.

(Read before the Mitchell District Medical Society, Dec. 28, 1883.)

In the examination of the eyes of applicants for pension, a more thorough knowledge of the anatomy, physiology and pathology of the organ is needed than in one's ordinary private practice, for the following reasons, to-wit:

1st. Many of them are impostors, who really have nothing abnormal about their eyes, they, in many instances having been induced by pension agents to add eye disease to their many other real or supposed infirmities.

2d. Others have slight disease, or abnormal condition, which they greatly magnify.

3d. In others, disease may have at one time existed and now have disappeared; but once having been on the pension rolls, they dislike to have their names stricken therefrom.

4th. Many present themselves whose troubles originated prior to their enlistment, or subsequent to their discharge from the service.

5th. Others fancy themselves entitled to a pension on account of failing sight incident to age, and other factors which we know have nothing to do with exposure incident to army service.

6th. On the other hand, many have been stricken from the rolls, or rated too low, or never pensioned at all, because the medical examiner has either failed to detect existing disease, or underestimated its gravity.

Examiners should always be provided with test-types of Snellen or others, remembering, though, that the applicant in many instances will not admit that he can read as well as he is able to, but tact and good judgment on the part of the examiner, aided by convex and concave glasses, will rarely ever fail in aiding him to reach a just conclusion in any case.

One should always have at least the following number of lenses: Convex, $^1/_{42}$, $^1/_{15}$, $^1/_{10}$, $^1/_5$. Concave, $^1/_{30}$, $^1/_{20}$, $^1/_{10}$, $^1/_5$, $^1/_3$, for the purpose of determining whether there is an anomaly of refraction. I have skipped over many numbers, as we simply wish to determine whether an anomaly exists, and not its exact degree. Then, one needs a convex lens of two or two and a half inches focal range for the examination by oblique illumination—a means of incalculable importance when we wish to detect disease in the cornea, anterior chamber, iris, crystalline lens, anterior and posterior capsule. To use this aid, one simply needs to have a lamp placed on a level with the patient's eye and obliquely in front and to the side of the same. By this means a pencil of rays may be so thrown upon the eye as to reveal that which cannot possibly be determined by one's unaided senses. It must be practiced on healthy structure first, and practice will soon teach us at just what angle to place the light, which, if too far in front or too much to the side, will not answer the purpose.

Then, one should be provided with one or two prisms set in a large frame, say two of 5° each; one with its base placed directly upward, and the other base downward. These are preferable to colored glasses combined with prisms, in cases where the applicant complains of blindness or defective vision in one eye. Prisms placed as above necessarily cause diplopia, (double vision), and with tact one can very quickly detect which is the defective eye, by simply having the person examined to close his eyes until a given signal, when, after placing these upon him, we hold a large white sheet of paper before him with a round, black spot, cross or other mark in its center, about one foot from his face. We tell him to open his eyes and quickly tell us just where they (the spots) stand, whether the lower spot is to the right or to the left of the upper, and which one is the plainer, etc., etc. If one meets with an old practiced hand at deception, he will commence winking and blinking and shutting first one eye and then the other, but we must then quickly raise the glasses and withdraw the paper from him or he will quickly detect the scheme. All that is necessary is to practice this on oneself to thoroughly understand the action of prisms, when many other methods of using them will be suggested.

Always have a mydriatic as well as a myotic at hand, so as to be able to dilate or contract the pupil, if needed. And if you wish to know all about any given case, provide yourselves with an ophthalmoscope also, as every disease behind the lens is a sealed book, objectively, without its aid. But, fortunately, a great majority of the cases which come up for pension are those where the anterior portions of the eye are diseased.

Were these examinations usually made by the younger members of the profession, no excuse should be offered as to one's inability to use this instrument. But it is a fact that nearly all of the medical examiners are gentlemen of at least twenty years' standing in the profession, whose hours are so occupied as to prevent the long continued practice with the instrument necessary to its proper use, for it is a well known fact to experts that it requires as much daily practice with it as is necessary to the acquisition of a foreign living language. I have met with cases where physicians have brought patients to me, just simply for a confirmation of diagnosis and prognosis, where they have used the ophthalmoscope and found no disease of the fundus of the eye; and yet I have silently, in their presence, made drawings of the gravest possible lesions. Not that I claim any superior skill in its use, but simply mention it to show that one must practice long with it before he dare pronounce positively in cases where it has been brought to one's aid.

We will now suppose that an applicant presents himself for examination. Look at his eyes thoroughly before touching them, as the slightest eversion of the lower lid will often cause such a congestion of the conjunctiva as to throw one off his guard in diagnosis. This one thorough glance takes in the surroundings of the eye, lachrymal derivative apparatus, eyelids, their movements, tarsal margins, etc., etc. We notice whether any of the ciliæ are inverted, or whether there is slight eversion of the lower punctum lachrymalis, remembering that if it does not hug the eye-ball closely, stillicidium, with its accompanying thickened lids and reddened conjunctiva, is always present. We notice the movements of the eye-ball, and if inverted or everted; we determine whether this is from strabismus or paralysis. Then the white of the eye, the cornea, the iris, and the lens, beyond which we cannot go without the ophthalmoscope.

We will now notice some of the affections which are very liable to be overlooked or underrated. One of them is

Cicatrization of the Superior Palpebral Conjunctiva.—Persons troubled in this way tell us that though their eyes feel very well when they present themselves before us, yet when they are called upon in harvest or threshing time, or to work in the hay-mow, or in burning brush, or in high winds, or any similar irritating employment, their eyes become very sore, and they are often disabled for weeks. In such cases the eye looks perfectly normal until we evert the upper lids, when, instead of the beautiful, smooth conjunctiva with the pearl-like meibomian glands seen beneath it, we find said conjunctiva cicatrized and hard, bound closely to the tarsal cartilage, which it very much resembles. In such cases we may rest assured that long ago the applicant had a long continued granular conjunctivitis, and that as these neoplastic growths were absorbed they destroyed the conjunctiva from which they sprang. All such persons should be pensioned, and no person so affected should ever be admitted to the army, no matter how well he sees, nor how well his eyes look, nor how much he protests that his eyes are just as perfect as any one's.

Nebulous Opacity of the Cornea.—This is an affection frequently overlooked, and many a poor fellow has had his claim rejected or his pension cut off, while

stoutly protesting that his vision was very poor. The reason of this is, that the unaided eye cannot readily detect these cases; but no sooner does one resort to oblique illumination than the case is immediately apparent, and it is astonishing how very much the thinest, faintest possible opacity of this kind will reduce the acuity of vision.

Large, Dense Opacity of the Cornea.—Where the cornea is white throughout its whole extent, or where it has entirely sloughed away in one or both eyes, be sure to thoroughly investigate the case as to the origin being in a gonorrhœa. 'Tis true, the case may come on from other causes, but do not forget this one fact deduced from extensive experience. The following case is interesting: X. Y. called on me several years ago, with a copious discharge streaming from his eyes. He told me that he was recently under a doctor's care, and that said doctor had used a foul brush in his eyes, and in that way had poisoned them. I asked him if he had the clap, which he vigorously denied. He went to another physician, but came back to me in just one week with both corneæ sloughed off. He threatened suit against the doctor alleged to have used the foul brush (an irregular, advertising doctor). So, to fully convince myself, I compelled him to allow me to examine his genitals. I then found a copious stream of pus from the urethra, on stroking the organ. His attorneys called upon me after they had commenced suit, and, after hearing what I had to say, dismissed the case. Three or four years afterwards this man applied for pension, for total loss of his eyes, the result of disease contracted in the army. Fortunately, the Board of Examiners sent him to me for an examination, when I gave them my former experience with the case. How this matter is to be settled, so that due justice may be done to all parties, I would very much like to know. That he contracted some form of disease while in the army he can prove, and that he was under treatment for the same when he contracted the gonorrhœa which destroyed his eyes, is also well known. But the solution of this knotty point I will leave for this society and the medical referees at Washington to determine.

Diseases of the Iris.—If one is not especially on the lookout for it, no trouble is more liable to escape one's notice than synechia posterior (adhesion of the iris to the capsule of the lens); it may be partial or total, with or without a false membrane in the pupil. Where a false membrane exists, it is liable to be mistaken for cataract. Whenever adhesions exist the eye is in great danger from occasional recurring iritis, which goes on until either the pupil is closed with or without said false membrane, or a total synechia posterior prevents the interchange between the anterior and posterior aqueous chamber, when the eye is ultimately lost from the glaucomatous process being set up, or from an irido-choroiditis. Sometimes these cases follow ulcerative keratitis, from malarious and other causes, sometimes from rheumatism; but remember that all iritic diseases should be thoroughly investigated, owing to the fact that great numbers are of syphilitic origin, especially where one notices no corneal complication nor evidence of rheumatism.

Choroidal and Retinal Diseases.—These can only be determined positively by the aid of the ophthalmoscope. Many have been rejected when no disease could be seen, and yet had the ophthalmoscope been used atrophied patches or pigmentary deposits might have been seen just as plainly as one sees the fruit in a freshly cut plum-pudding. Here, with this instrument can one detect between retinitis pigmentosa of congenital origin and that which is acquired later in life, as is seen in these two typical cases (shown to the society). The one was taken from a lady, æt. 30 years, and you see the deposits are like miniature blackbird's feet, and are very peripherally situated, only a few approaching near to the macula-lutea. The other was taken from a gentleman, about 48 years of age, where it followed an exhausting diarrhœa, in one of our Southern prisons during the late war. Here you see the patches are larger, more irregular and more centrally situated; both of them were sight-blind, as are all cases of this disease.

DISEASES AND ANOMALIES WHICH ANTEDATE ENLISTMENT.

Progressive Myopia.—Applicants often tell us that they had very good vision when they entered the service, but that during their army life their eyes became diseased, and that since leaving the service their vision has gradually or rapidly become worse. We find that they can not see test types at all, but if the man is honest he may admit that he sees some of the letters on the wall when a powerful concave lens is placed in front of the eye. Or he may want a pension more than a thorough examination, and may not admit that he sees better with any glass. In such cases one can not examine without the ophthalmoscope; but with it one may measure the degree of the myopia to within a half an inch, and can find a crescent on one side of the optic disc extending from the same, corresponding to a posterior staphyloma (bulging backwards of the back part of the eye) and often besides this large white patches where the choroid is atrophied and the sclerotic is to be seen behind.

Nystagmus (Oscillation of the Eye Balls).—Whenever this disease or symptom of disease is met with you may depend upon it that it occurred before the second year of infancy, except in the rarest cases possible, such as in paralysis agitaus, in confirmed drunkards, and in some brain or spinal affections. A typical case is as follows: A medical examining board sent a case to me where one eye was very much turned outward from divergent strabismus, he had nystagmus, and a very high degree of progressive myopia with its accompanying staphyloma porticum and white patches in the fundus, from sclerotico-choroiditis posterior. His vision was very poor. The board reported the facts to Washington, stating that the disease was not contracted in the army, but the case was returned to the board with instructions for a further examination, owing to the fact that the man had furnished evidence that he had shot at a mark and done many things which called for a tolerably fair degree of vision, and it was asked of said board if it were not

possible, in the light of this evidence, that they had done the man an injustice? It was not possible, it was a very well-marked case of an everyday occurrence in a large ophthalmic practice: triple evidence of its early origin was plainly manifest, nystagmus, divergent strabismus and progressive myopia. What more conclusive evidence could one wish for?

Suppose he could shoot at a mark. I have known men to shoot remarkably well, even though vision only equalled $^{20}/_{100}$ with both eyes. His may have been even better than this in one eye while in the army, but I question very much its equalling $^{5}/_{100}$ in the one that had such a high degree of divergence. This brings us to

Strabismus and Paralysis.—Strabismus is usually the result of an anomaly of refraction. In the convergent form the eye is hypermetropic (rays of light are brought to a focus behind the retina), while in the divergent the eye is generally myopic (the opposite to the above). Strabismus usually comes on before the fifth year of childhood, and wherever it settles on one eye the person has binocular vision (as a prism will show) and he becomes amblyopic from exclusion (weak from disuse). 'Tis true an opacity of the cornea or other blemish sometimes causes it, but that can easily be detected as can the date of its occurrence. Paralysis, on the other hand, is caused by wounds, brain disease, rheumatism and above all syphilis. Always investigate paralysis of the ocular muscles thoroughly, and never confound it with strabismus.

DISEASES AND ANOMALIES INCIDENT TO AGE.

Senile Cataract.—This, as its name indicates, occurs in those who have passed the meridian of life. It comes on slowly; dimmer and dimmer becomes the sight, until blindness is the result. No inflammation; no pain; nothing but a failure of the nutrition of the lens, with gradual and steadily increasing opacity of the same. It is usually entirely independent of any disease contracted while in the service. Cataract may be caused by blow, or punctured wound, or from a choroidal inflammation, but it usually follows very quickly upon them; while the senile variety we meet with is in those now past fifty, who left the army with very good vision, or they may have had some conjunctival trouble for which they were treated while in the service, and as their eyes may have troubled them occasionally since their discharge, they attribute the gradually failing sight to their former trouble, for which probably they may have been drawing a pension. It is in just such cases where the line of demarkation should be strictly drawn. The government is justly indebted to such for the disability caused by the superficial trouble, but in no way for the blindness caused from cataract, as it is in no way incident to army life. Cataract is very easily detected with the plain mirror of the ophthalmoscope, or by oblique illumination. If the anterior or peripheral parts of the lens are first affected, the latter is sufficient; if only the posterior pole, the ophthalmoscope must be used.

Presbyopia in Hypermetropes.—Presbyopia is also an anomaly which creeps upon us just as certainly as does age, but if we are emmetropic (in optical measure) it only annoys us for close objects; distant ones are seen almost as distinctly as ever, but let one be hypermetropic (a condition where rays are formed behind the retina) and he is very much troubled for distant objects as well as close ones. Now, suppose one so affected (and they are numerous), had some slight eye trouble while in the service, he immediately supposes that his present failing sight is due to the former trouble, and that he should be pensioned for the same. To detect these cases, convex glasses are required, and the strongest glass, with which one sees the best across a room, or at infinite distance, indicates the degree of the manifest hypermetropia. It has no connection with army service.

Many other affections might be mentioned, but these are the main ones upon which you will be called to pass judgment.

Resume:

Cicatrization of the superior palpebral conjunctiva, even though the eye looks perfectly normal, is a just cause for pension.

A slight nebulous opacity of the cornea is easily overlooked, except by oblique illumination.

Iritic adhesions are easily overlooked, except by the use of a very delicate and oblique illumination. They are seeds of ultimate destruction unless loosened. Look for syphilis when no other cause is apparent.

Progressive myopia has its origin in childhood, but may not seriously affect vision until much later in life. It is usually accompanied by staphyloma posticum and sclerotico-choroiditis-post.

Nystagmus (oscillation of the eyeballs) is usually accompanied by defective vision, and usually has its origin in early childhood.

Strabismus is generally an affection of early childhood, and when confined to one eye, it soon very much impairs the visual acuity, and the subject has not binocular vision.

In total destruction of the cornea and in leucoma (large white opacity) investigate thoroughly for gonorrhœa.

Where the eye is turned from paralysis, and no evidence of wound of head, or eye, or of brain or spinal cord is seen, look for syphilis.

Senile cataract usually comes on long after the applicant has left the service, and though he may have evidence of granular lids or chronic conjunctivitis, and may be already on the pension rolls, still, in ninety-nine cases out of a hundred, the cataract is entirely independent of army life.

Presbyopia, wheh occurring in hypermetropes, affects vision for distant as well as close objects, and often leads the applicant to believe it to be incident to army life.

All lesions behind the lens are a sealed book, objectively, unless one resorts to the ophthalmoscope.

Allow me to say, in conclusion, that in eye diseases, a mistake in diagnosis is almost impossible, when one knows what to look for, and yet it is a fact beyond contradiction, that greater ones are made than in any other part of the human economy.

MEDICAL PROGRESS.

HYGIENE.

THE PAVILION OF DR. KOCH FOR THE EXPOSITION OF HYGIENE AT BERLIN.—A writer in the *Revue Medicale of Louvain*, gives us a very interesting description of the workshop and museum of exhibit of Dr. Koch. It appears that in 1876, the Imperial German Government established a central committee to supervise the sanitary condition of the Empire, and to contribute directly, by especial researches, to the progress of hygiene. This committee, called the Reichsgesundheitsamt, was composed of five persons who were to collect, arrange and exhibit all material pertaining to the study and practice of hygiene, and to give its aid to the Minister of the Interior in the study of questions relating to hygiene, and in the preparation of laws and administrative measures relative to the same subject. In 1878 the committee was enlarged, and the Government appropriated generously the funds necessary for thoroughly equipped laboratories for original researches intended to solve certain important hygienic problems.

The building itself is located in the center of the medical quarter of Berlin. It consists of a very large house with a cellar, ground floor and two stories, with laboratories for chemistry, hygiene and experimental pathology, numerous work-rooms, a statistical bureau, library, lecture-room, consultation room, dwelling-rooms for the Director, and chambers for the assistants, with, finally, motor apparatus, rooms for disinfection, for combustion, for incubation, dark chambers, photographer's room, etc.

The *personnel* is made up of a Director, Dr. Struck, and four ordinary members, viz.: Dr. Koch, Prof. Roloff, of the Royal Prussian School of Veterinary Medicine, Profs. Sell and Wolfftingel, of the University of Berlin; of nine assistant physicians, and a sufficient number of employés to perfect the service. Besides these there are 25 extraordinary members chosen from among the most eminent hygienists in the principal cities of Germany. The Reichsgesundheitsamt erected a pavilion in the park of the Exposition of Hygiene, which contained two laboratories. 1. A laboratory for the analysis of alimentary substances. 2. A laboratory for researches into infectious diseases and the modes of disinfection. Entrance into this pavilion is interdicted to the non-medical public, which the writer from whom we quote criticises, having, as he says, seen a lively interest displayed by those not initiated in the mysteries of medicine, at seeing displayed before their eyes the chemical analyses of alimentary substances, and noting the tabular statements of the comparative nutrient value of different substances. The ocular demonstration of the purity of water and air through the bacterioscopic culture; the adulteration of milk, etc., must have a certain useful influence upon the mass.

Dr. Koch commenced his work on the microbia when he was a country physician, a *Kreisphyricus*, in a very small village of Silesia. It was in the midst of his duties as a practicing physician that he commenced and carried on those admirable labors which mark an epoch in our knowledge of the infinitely minute world. Gifted with sagacity and an exceptionally clearsightedness, joined with dexterity and the spirit of order and method, and with an indomitable perseverance, he made his first essays like those of a master. With a sober manner, and a style that is clear and curt, the most of his works are spread over but few pages, but every question submitted to his researches comes back perfectly answered from his hands.

To affirm that a given disease is the product of a special germ, Dr. Koch exacts the three following conditions:

1st. The germ should be be found in the diseased organism, in its secretions or excretions; it must be found in such forms and groups as show its special and characteristic dispositions.

2d. The germ must be capable of cultivation out of the body, and isolated from all living material and other germs.

3d. The germ so cultivated must be capable of being reproduced in the living organism of the original disease.

If these three conditions are satisfactory, the proof is complete.

1st. To ascertain the presence of the germ, Dr. Koch uses the simple and direct means, but more generally calls to his aid the aniline staining fluids, which possess a special affinity for the germs or microbia; and in the pavilion are to be seen the Abbe condensor, the different models of microscopes used in laboratories, and all made by Zeiss, of Jena.

2d. The microbia are sown in a suitable medium and kept at a proper temperature, where they multiply with a differing degree of rapidity, according to their species. As the use of a liquid medium presents certain objections, which render it difficult, laborious, long and uncertain, Dr. Koch, in searching for a more solid medium, has utilized the potato, which he sterilizes by first soaking it in a solution of corrosive sublimate for an hour, and then places it on a sieve in an iron box holding water to the depth of several centimeters, over which this is placed. The box is closed by a cork pierced by a thermometer; the temperature is raised to 212°, and kept so for from one-half to one hour. The potato is cut with a heated knife-blade quickly, and in as pure air as possible, a drop of the liquid to be examined placed upon it, and the whole covered by an hermetically sealed bell glass. Each species develops its own peculiar form of culture islet, which can be recognized by the naked eye. Thus, one sees a group of the micrococcus prodigiosus, the bacteria which gives the green color to pus, the *bacterium anthracis*, or, and here bread is preferred as the medium of culture, the *oidium lactis*, the *aspergillus glaucus*, etc.

By the aid of gelatine Koch is enabled to study cultivation in alimentary substances, such as the bouillon of different meats, saline solutions, Pasteur's liquid, etc.; it has the advantage of jellifying at the temperature suitable for the cultivation of these germs, but the disadvantage for others, as for milk, of liquifying at a higher temperature. In this way

he obtains the germs of chicken cholera, of typhoid fever, erysipelas, anthrax, septicæmias, the *bacterium termo*, etc. In the study of the germs which produce lactic fermentation, butyric fermentation, blue milk, etc., these germs have been so far isolated and cultivated, that it would seem as if before long the mystery attendant upon the numerous alterations of milk would be unveiled in its minutest details. As has just been said, gelatine not proving suitable, Dr. Koch takes the blood serum, pure, or gelatinized to facilitate its coagulation. He selects, by preference, the blood of an animal subjected to the disease of which he desires to study the germ. It (the blood) is taken from the carotid and collected carefully in a vessel, where it is allowed to remain until the contraction of the clot expresses the serum, which serum is then taken up by pipettes previously heated, and distributed into a series of test tubes, that have also been sterilized by a prolonged heat of 302° to 320°. The serum in these test tubes is then sterilized by being placed in a suitable vessel, and submitted daily to an hour's temperature of 136.4° F. for about six days. This results in a feeble coagulation of the serum, which remains transparent and quasi-gelatinous. To prevent the water of the serum from resting on the top, the tubes are laid obliquely. To carry on these investigations properly a delicate regulation of temperature is necessary, and for this purpose the thermostat of Arsonval is used, which allows of a constant heat to $^1/_{10}$ of a degree centigrade. The culture of the bacillus of tuberculosis has been so made, and in the same way the bacillus of glanders, of osteomyelitis, the microbia of the septecæmia of the rabbit, of the turkey, etc., etc.

Much laboratory work has been done in the bacteriscopic examination of the air, the water and the soil. To examine the air of an apartment it is simply necessary to expose sterilized slices of potato, upon which the germs fall and colonize themselves. For water, a weak solution of gelatine with the necessary nutrient salts, is mixed with a small proportion of the water, left to the surrounding temperature, and in a little time the solidified gelatine shows whitish or gravish granules, which the microscope resolves into colonies of special germs. To estimate the proportional quantity of these germs, the contaminated gelatine is spread out on a large plate of glass over paper that has been ruled and counter-ruled so that a rapid and satisfactory count of the islets of microbian vegetation can be made. Thus are to be seen the fractions of a drop of the water from the canals of Berlin, of pump water of the public fountains, of sewer water, and of the water of the river Sprée, above and below Berlin, these last demonstrating in a striking manner how water becomes contaminated and how it purifies itself by nature's processes. Nothing is more curious than to examine these plates covered with little clods of turf, islets of dust, white, green and brown spots, little collections of pearls and a crowd of special forms, so diverse as to appear like a public park or garden in miniature. As in all the other analyses, each variety of vegetation, after being carefully examined by the microscope to ascertain its purity from all foreign mixture, receives an isolated culture with the most diverse substances, in turn submitted to its influence.

3d. Finally comes the reproduction of the original disease by the aid of the artificially developed germs. This has definitely proven for the microbia of charbon by Pasteur, of tubercle by Koch, and for the bacteria of glanders, the coccus of erysipelas, etc. The pavilion displays numerous anatomical specimens from rabbits, dogs, and other animals that have been inoculated with the bacteria of tuberculosis, cultivated to the tenth, twentieth, and higher generations, and which demonstrate positively the presence of tubercles in the different organs. Other specimens show the inoculation of the cultivated bacteria of glanders on the rabbit and on the horse. The nasal mucous membrane and the ulcerated ears so exhibited give the most positive evidence of this infection. A group of photographs on glass completes the series of objects exhibited. These direct reproductions of the different varieties of the known pathogenetic inferior organisms, as well as the disposition they affect in the diseased organs, are for the most part, in spite of the often enormous enlargement which they have undergone, of an absolute sharpness and admirable precision of detail.

MEDICINE.

THE USE AND ABUSE OF THE MACKINTOSH.—A late number of the *Lancet* has a very practical article under this heading, and for our purposes the word mackintosh can be rendered gossamer or rubber coat. It says: "The season has set in for wearing mackintoshes. A caution may be therefore not unnecessary, and let us hope, not unheeded, as to the use and abuse of this serviceable, but, when improperly employed, dangerous article of clothing. When once a mackintosh is put on to defend the body from wet, it should on no account be taken off until the wearer has not only taken shelter, but is in a position to change his clothes. What a covering of oiled silk does for a wet rag in surgery—namely, convert it into a poultice—the mackintosh does for the clothes of its wearer. The insensible perspiration, which finds a way of escape through ordinary clothing, is kept in by the waterproof, and the clothes are saturated with moisture. A very few minutes will suffice to render the under-clothing "damp" under a mackintosh, particularly if either the wearer perspires freely, or the weather be what is called "muggy," as well as wet. When, therefore, the wearer of a mackintosh takes off that article of clothing, because it has ceased to rain, he is in the position of a person who has damp clothes on, and if he sits in the saddle, or walks home, or rides in an open trap, he is more likely to take cold than if he had not used the mackintosh at all. If, therefore, we say, a mackintosh is once put on, it should on no account be removed until the clothes can be changed or dried by a fire without reduction of bodily temperature. The use of a mackintosh is to protect a man from a severe storm of rain. His clothes must be damp if he wears one of these protectors. The sole gain from using it is to render the moisture warm instead of cold, and

to prevent loss of heat by evaporation. If the mackintosh be removed, evaporation commences immediately, with all the consequent risks of that process."

A NEW TREATMENT FOR NEURALGIA.—The latest agent introduced for the relief of neuralgia is a 1 per cent. solution of hyperosmic acid, administered by subcutaneous injection. It has been employed in Billroth's clinic in a few cases. One of the patients had been a martyr to sciatica for years, and had tried innumerable remedies, including the application of electricity no fewer than 200 times, whilst for a whole year he had adopted vegetarianism. Billroth injected the above remedy between the tuber ischii and trochanter, and within a day or two the pain was greatly relieved, and eventually quite disappeared. It would be rash to conclude too much from these results, in the face of the intractability of neuralgia to medication, but if it really proves to be as efficacious as considered, hyperosmic acid will be a therapeutic agent of no mean value.—*Lancet.*

TUBERCLE INFECTION THROUGH FOOD.—We translate the following notice, by Wernich, from the *Centralblatt f. die Med. Wissenschaften* for Nov. 10: In the *Bayerisches ärztt. Inteltigenz-Blatt*, 1883, No. 26, Herzevich reports the history of two girls, sisters, aged respectively fifteen and three months, who, after being nursed by an undoubtedly phthisical mother, the first for five months, the second for three, were reared and fed on soup, milk and pap. The mother adopted the following disgusting method of feeding: She first chewed the food herself, then spat it out into a spoon, and gave it to the children. So long as she had little expectoration, the children bore this feeding well; but so soon as her expectoration became abundant, although the children continued to take their food with appetite, they both rapidly emaciated; ulcers formed in the throat and insides of the cheeks, some large and of irregular shape, others small and round, both with infiltrated edges; and extensive swelling of the lymphatic glands occurred. Severe fever, putrid diarrhœa, and progressive atrophy caused the death of both children within a month of one another. The post-mortem appearances were the same in both. All the mediastinal lymphatic glands were swollen and caseated; caseous nodules occurred under the pleuræ and scattered throughout the lungs, also in the liver, spleen, and of smaller size in the kidneys—in other words, there was present tuberculosis pulmonum, hepatis, renumet lienis, lymphadenitis caseosa. The mother survived the children for some months, and died after extensive destruction of the lungs had occurred. It is worthy of remark that her children by a former marriage showed no signs of phthisis; also that the two children in question, so long as they were suckled by a comparatively healthy mother, remained themselves healthy. As the author says: "This important case has all the value of a pathological experiment, and must be considered as a pure case of tuberculosis derived from infected food." —*Dublin Journal of Medical Science.*

FOWL'S GIZZARD PEPSINE.—Dr. D. J. Macgowan reports that among the drugs exported from Wenchow, there is one which merits notice from the attention that the article has lately received from Western pharmacologists,—fowl's gizzard. It became an article of the Chinese materia medica in the early half of the eighth century A. D., having been employed probably in domestic practice long antecedently. The properties of the drug known as ingluvin, which is prepared from the gizzard of the fowl, are wholly due to the internal membrane of that viscus. It is supplied to the shops by cooks of eating establishments, who in dissecting out the membrane are careful not to wet or waste the secretion, and thus portions of the bird's food are sometimes found adherent. When dried, the article, from its plicated form, resembles a scallop shell; its color is a pale olive yellow, and it is very brittle. It is often found wasted or charred nearly black, and for the most part is employed in that form. It is generally boiled with other drugs; in a few cases it is administered unburnt, mixed with wasted rice, both being triturated together. Fowl's gizzard is employed by the Chinese largely in bowel complaints of children, but particularly in urinary disorders, curing them of a malady that is indicated by "milky urine." It removes abdominal tumefactions, corrects incontinence of urine; it is valuable in spermatorrhœa, leucorrhœa, and in flooding following delivery; it corrects nausea, and is used to allay morning sickness in pregnancy, but of course its main use is in indigestion. In domestic practice the lining of three gizzards is thought sufficient for an ordinary case, the whole being taken in the course of 10 days. It is enjoined that hens are to be used for men, but in practice no sexual distinction is made.

A writer of the seventh century A. D. advocated its use in a form of ophthalmia of children, due to deranged liver, for which it is still employed.

Externally it is employed in the treatment of indolent ulcers, carious teeth, ulceration of the throat (blown in through a bamboo tube), and in hæmorrhoids.

Cows' stomachs are employed for most of the complaints named above. The viscus is to be minced and boiled in 10 bowls of water, with ginger and vinegar, down to one bowl. In taking pepsine in this form, the patient must abstain from the flesh and blood of dogs. Pigs' stomachs are used chiefly for dyspepsia and analagous complaints, and also as an anthelmintic. The stomach of the sheep is used as a tonic and stomachic.

REMOVAL OF A RING FROM THE PENIS.—Dr. E. A. Aldridge, in his report from Hoihow, refers to a notion, prevalent probably throughout China, of the existence of a disease the most prominent symptom of which is shrinking of the penis; hence the common name, *so-yang-cheng*—the disease of the contracted penis. It is said most frequently to come on after sexual intercourse, but a man may be attacked by it at any other time. After the penis has once begun to shrink, if proper measures are not promptly taken, the sufferer becomes insensible, and the penis recedes into the belly, and remains there even after death, which soon takes place. The treatment first

to be adopted is to lay hold of the penis and draw it out; this is most frequently done by means of the ordinary Chinese scale-box, the two halves of which are made to act as a pair of tongs or pincers, while the sliding ring round the handle tightens the grip as necessary. The end of the spine is cauterized with artemisia moxa, acupuncture is performed with silver needles, and the penis bathed with hot, strong samshu. There have also been supposed cases of contraction of the female breasts, the disease being known as so-nai-cheng. In the case of a petty native official who, three days previously, felt chilled, and had some pain in the bladder, he thought his penis began to shrink, and as he greatly feared that it might recede into the belly, to prevent its doing so, he put a jade-stone thumb-ring round it, but the next morning was unable to draw off the ring. On examination, Dr. Aldridge found the thumb-ring near the root of the penis; the organ in front of the ring was greatly swollen, being 4¾ inches in circumference, and quite cold; the glans was of a dark color, and the skin tense and shining, and mottled with extravasated blood, showing all the signs of commencing mortification, the constriction having lasted for about 65 hours. After winding tape round the penis, and passing one end under the ring by means of an eyed probe, and then untwisting the tape, he moved the ring forward about 1½ inch, but by so doing considerably increased the swelling in front of the ring. However, after making numerous punctures and letting out some blood and serum, by making steady pressure, in an hour or so the ring was removed; lint spread with zinc ointment was wrapped round the penis, and in a few days it regained its proper form.

Cremation.—The Medical Reports of the Imperial Maritime Customs of China, as published by order of the Inspector-General of Customs, contain much that is curious, interesting and valuable. In No. 25, Dr. A. Henry reports in regard to cremation in Ichang, that sometimes children are cremated. This is only done from superstitious reasons. Where several young children of a family have died in succession, the body of one of them is burned, the supposition being that the ceremony will ensure the survival of the next child that is born to the family. "I witnessed last summer one performance of the kind. The body was simply brought to the open fields in a box, some firewood was piled around it, and set fire to. The absence of odor was remarkable. In the neighborhood, out of the many Buddhist temples around, there is only one the inmates of which are burned after death. The manner in which the process is carried out is both efficient and æsthetic, and, moreover, it is not expensive—at least, the cost does not bear comparison with the large sums that the admirers of the practice in Europe are reported to incur. In the grounds of the temple there is a small dome-like ediflce, the interior of which communicates with the open air by a small door. On a stone seat inside the dome the dead friend is placed in a sitting posture, and around him is piled a quantity of charcoal and firewood. This is set on fire; the door is then shut until combustion is complete. The calcined bones are collected and placed in a jar, which is preserved in one of the niches in an adjoining mortuary chapel. The latter building is also a small dome, and contains great numbers of these mortuary urns."

OBSTETRICS AND GYNÆCOLOGY.

The Diaphoretic Treatment of Puerperal Eclampsia by Hot Baths.—Dr. C. Brens, of Vienna, has returned to this treatment. Last year he reported six cases—the satisfactory treatment of which induced him to give it a further trial and he has since (*Annals de la Societè Medico-Chirurgicalè de Liege*) reported eleven new cases with one death. The patient is put into a bath of 100.4°F, the temperature of which is gradually increased. After remaining in the bath for ½ to ¾ of an hour, the patient is wrapped in warm bedclothing, so as to produce an energetic diaphoresis, at the same time that injections of chloral hydrate are used to produce profound narcosis. The patients are put into the bath while under the influence of the narcotic, and if they awaken they are again brought under its influence. Attempts are made by the ordinary means and without force to shorten labor in the pregnant woman, and massage of the uterus is performed in the bath in the woman who has been delivered.

Four of these cases developed with the commencement of labor; in two the convulsions appeared during the first stage of labor, which was prolonged; one case developed during the stage of expulsion, and four cases the day after delivery. The case of death was in a patient who was syphilitic, and who had already suffered from several attacks before she came under treatment,—she died four days after the cessation of all convulsions, and the autopsy showed the presence of a phlegmon of the pelvis and peritonitis. Of the children, two were dead and were extracted by craniotomy, five were delivered by the forceps and survived—the remaining four were living, and belonged to the cases in which convulsions appeared after delivery.

In a number of cases of pregnancy where œdema was present with albuminuria, the prophylactic treatment of hot baths was used and in none was there premature delivery or any other disagreeable effects observed; particularly was it noted that in none of these cases did eclampsia occur. Among other cases one is given of a primipara aged 26 years, in the eighth lunar month of her pregnancy, who was markedly œdematous and whose urine was loaded with blood and albumen. She took forty-five baths, with marked relief to her condition and delivery at term of a healthy child; no bad after effects. In those cases where the convulsions set in after delivery there was no hæmorrhage—the uterus being subjected to massage as was noted.—*Journal des Sages Femmes.*

It has been announced that a baronetcy is to be conferred upon Professor Lister. This is a well-deserved honor, for no one has done more to advance our knowledge in the department of antiseptic surgery. His own original research, and important scientific work, make him deserving of the honor.

THE

Journal of American Medical Association.

PUBLISHED WEEKLY.

THE EDITOR of this JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information, should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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SATURDAY, JANUARY 19, 1884.

SIGNING THE CONSTITUTION, BY-LAWS, AND CODE OF ETHICS OF THE AMERICAN MEDICAL ASSOCIATION.—Perhaps no one act connected with the doings of the American Medical Association has heen more misrepresented, and consequently misunderstood, both by individuals and a large part of the medical press, than that which consisted in the insertion in the blank forms provided by the Permanent Secretary or the Registration Committee at the recent meeting in Cleveland, of a line by which the signer of the blank thereby endorsed the constitution and Code of Ethics of the Association. By some it was regarded as a mere trick, by which to gain fresh endorsement of the National Code of Ethics. By those who had any leaning toward the so-called New York Code, it was indignantly denounced as having been inserted without authority; while the newspaper reporters, and a large majority of the members of the profession present, readily assumed that the new line in the blank to be filled and signed had been placed there for the express purpose of shutting out all the much talked-of New York new code men. And for months afterward editors of many of the medical journals awarded to some one great credit for having devised a scheme so ingenious and effectual for accomplishing the last named object. It seems almost cruel sometimes to spoil oft-told tales, or to correct misrepresentations by which those making them fondly hoped to further their own ends. But a due regard for truth and the facts of history require us to do it in this case.

It is within our personal knowledge that the origin of the plan to make the signing of the blank provided for delegates and members to fill up and sign, as a prerequisite to being registered at each annual meeting, equivalent to signing the constitution, by-laws and Code of Ethics, had no reference whatever to the followers of the New York code, or to the exclusion of any person or party from membership in the Association. On the contrary, during the meeting at St. Paul, in 1882, while the Judicial Council was engaged in the investigation of charges of unprofessional conduct preferred against a member from a town in the northern part of Wisconsin, it appeared from the direct testimony of the defendant himself, that he had never signed the Constitution or plan of organization of the Association or endorsed the Code of Ethics, concerning the provisions of which he appeared to be quite ignorant. This caused a discussion in the Council in regard to the propriety or practicability of admitting parties to membership in the Association without their signing, or in some way pledging themselves to obey its fundamental laws. More especially so, when the last clause of the second section of the constitution, relating to members, provides as follows:

"Every member elect, prior to the permanent organization of the annual meeting, or before voting on any question after the meeting has been organized, must exhibit his credentials to the proper committee, *and sign these regulations*, inscribing his name and address in full, specifying in what capacity he attends, and, if a delegate, the title of the institution from which he has received his appointment." That the words, "these regulations," here include the Code of Ethics, as well as the constitution and by-laws, is evident from the *proviso* in the fourth paragraph of the same section of the constitution, and the ninth by-law. As a result of the discussion, the Permanent Secretary was invited before the council to explain why so plain and important a provision of the constitution had been, to say the least, but imperfectly complied with? The Secretary informed the Council that in the literal execution of the provision of the constitution in question, during all the earlier years of the Association, a large book was provided in which each member was required to sign directly the regulations constituting the plan of organization of the Association. But as the membership increased, the names were often duplicated, the size of the book became very cumbersome, and the time required for each to sign retarded the progress of registration. For these reasons the book for signatures had been omitted for several years past, and blank forms provided convenient for each applicant for registration, to fill up and sign, containing all the

items specified in the paragraph of the constitution quoted above, except that relating to the constitution, etc. This he claimed had been inadvertently omitted. Some members of the Council were disposed to insist that a book should again be provided, and the provisions of the constitution be literally complied with according to the original method. But after a further explanation by the Secretary to the effect that the *forms* filled up and signed by the present method were all filed, and from them the list of names of members compiled for publication, and that a line could be readily inserted which would cause the signer to directly endorse the constitution, by-laws and ethics of the Association as effectually as if he had entered his name in a book, it was agreed that at the next and all subsequent annual meetings the blank forms provided for members to fill and sign, preliminary to registration, should contain such provision as just stated. It was in compliance with this understanding between the Judicial Council and the Permanent Secretary at the meeting in 1882, that the new clause in the blank forms provided for members to sign before being registered, made its appearance at the meeting in Cleveland in 1883. It was a simple device for complying with an important provision of the constitution without delaying the progress of the registration of members at the commencement of each annual meeting, and having no more reference to the shutting of the door of the Association in the face of any one who was entitled to enter, than it had to the exclusion of the followers of Mahomet. And we trust the Secretary, in conjunction with the Committee of Arrangements, will see that the same object is fully and fairly accomplished at the coming meeting in Washington. The Association has never questioned the right of any member to propose and advocate such changes in the constitution, by-laws and Code of Ethics as he might deem proper, in the manner provided for by the plan of organization.

On the contrary, changes have been proposed by members almost every year, especially in the by-laws. And several important changes have been made at different times both in the constitution and by-laws. Ten years since, a committee was charged with the duty of examining and reporting on a revision of the Code of Ethics, and only three years since an important amendment or addition was made to the Code after full discussion in general session of the Association.

Consequently, all the allegations and inuendoes of open enemies or pretended friends about the gagging of members, the "evasion of issues," or the suppression of discussions, are without the least shadow of foundation in fact. Under the rules of the Association, any member can propose an amendment to any part of the fundamental regulations of the organization. It must be received, published in the minutes of the meeting, and lie over one year for consideration and information of members generally. At the next annual meeting it comes up in regular order for consideration, discussion, and final action.

We say again, therefore, that the Association has never placed the slightest restriction upon the right of any member to advocate any change in either constitution, by-laws or Code of Ethics in the manner provided for in the plan of organization. But it is quite a different thing, when a person seeking to gain or retain membership, openly unites with outside organizations in repudiating a part of the fundamental laws of the Association, and pledges obedience to others in conflict with them. Such an one assumes a position not regarded as enviable, to say the least, by intelligent and honorable men.

A Chicago Medical Library.—The Chicago Medical Society has recently completed arrangements with the authorities of the Chicago Public Library to have a regular department for medical books, to be cared for, and rendered accessible for use, under the same regulations and officers as the rest of the public library. The Medical Society appropriated $500 of the surplus in its treasury for the purpose of purchasing the first installment of books for this library. We say first installment, although soon after the great fire of this city in 1871, the Chicago Medical College, Medical Department of the Northwestern University, having accumulated a library of seven or eight hundred volumes, without a convenient library room in which to keep it safely, had the books transferred to the Public Library of the city, where they have since remained, and will constitute a part of this new collection of medical books. The present arrangement with the authorities of the Public Library, opens at once to the medical profession a valuable medical library and convenient reading-room, at the least possible cost. We trust it will be a well sustained and patronized department of one of the most important public institutions of this city.

Editorial Change.—The *Weekly Medical Review*, published simultaneously in Chicago and St. Louis, and having a corps of editors in each city, has recently changed its leading editor in the first named city. Dr. Robert Tilly, 125 State street, Chicago,

takes the place previously occupied by Dr. Roswell Park, who has removed to Buffalo, New York, and become a member of the Faculty of the Buffalo Medical College. Dr. Tilly is one of our most gifted and enterprising young members of the profession, and will discharge whatever duties he undertakes with fidelity and ability.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION.—In the JOURNAL of last week, the list of officers given on the last page of reading matter, was copied from the record of proceedings ot the meeting at which the officers were elected.

The office of Secretary being permanent, the name of Dr. Atkinson does not appear on the record, and its absence was not discovered until too late to supply the defect in that number. It will be found in its proper place in the list in this and future issues.

CORRECTION.—In the list of names of members of the American Medical Association, who were in attendance on the meeting in Cleveland in June last, as published in the last number of the first volume of this journal, appears the name of O. W. Meeks, of Marion, Ohio, which should have been O. W. Weeks, M.D.

SOCIETY PROCEEDINGS.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated meeting Thursday, January 3, 1884. The President, R. A. Cleemaun, M.D., in the chair.

BATTEY'S OPERATION.

Dr. E. E. Montgomery corrected a statement made in the report of the case of ovariotomy narrated by him at the meeting of December 6, 1883. Silk ligatures, not catgut, were used to tie the pedicles.

The convalescence of the patient had been very satisfactory. The temperature did not rise above 99° F. In performing this operation no antiseptic was used; all instruments, sponges, etc., were washed in boiling water, and boiled water was used in washing the wound and abdominal cavity. The mental condition of the patient was such that she was kept constantly under mechanical restraint, and on one occasion, when she had been left alone for a few minutes, she tore all the dressings off of the wound, and at the next visit it was found bare, but no bad result followed. The sutures were removed on the eighth day. Some pain in the lower part of the abdomen and slight fever commenced on the twenty-fifth day, but she has since again improved. Her mental condition is at the present better than it had been for a year before the operation, and she can now converse rationally.

SEPTICÆMIA AFTER ABORTION.

Dr. W. H. Parrish reported the following case: A young woman, 20 years of age, came into the Philadelphia Hospital in the finishing stages of an abortion, which had been coming on for some days. The cause was unknown, but was probably instrumental. At the time I first saw her, three days after her admission, her temperature was 103° to 104° F., and pulse 150. She had had a chill before admission; her abdomen was distended and tender, and the uterus was very sensitive. The right parotid gland was swelled and painful; it continued to enlarge, and fearing septicæmia, he gave fifty grains of quinine daily by rectum, as the stomach was too irritable to retain it. One ounce of whisky was given by the mouth every hour, day and night. A small quantity of morphia was given, to relieve the abdominal tenderness. The pulse and temperature fell rapidly, but the gland continued to be swelled and painful; it was quite hard, but was discolored. There were no chills now, but fearing the presence of pus, he made an opening by Hilton's method, incising the skin and using a director to tear an opening through the gland tissue. This opening was enlarged by passing a pair of forceps, closed, along the groove of the director, and withdrawing them opened. This opening gave exit to two or three fluid-drams of pus. The gland now improved in appearance, but another abscess opened behind the gland and discharged freely. The two abscesses did not communicate. The patient is now convalescent.

OFFICERS OF THE SOCIETY FOR 1884.

President—Richard A. Cleemaun, M.D. Vice Presidents—B. F. Baer, M.D.; W. T. Taylor, M.D. Secretary—W. H. H. Githens, M.D. Treasurer—Alfred Whelen, M.D. Librarian and Curator—T. Hewson Bradford, M.D. Councillors—R. P. Harris, M.D.; Lewis D. Harlow, M.D.; Wm. Goodell, M.D.; T. M. Drysdale, M.D. Publication Committee—John H. Packard, M.D.; James V. Ingham, M.D.; Elliott Richardson, M.D.; B. F. Baer, M.D.

PHILADELPHIA HOSPITAL FOR SKIN DISEASES, 923 LOCUST ST., PHILADELPHIA.—The bathing facilities of this establishment having been greatly enlarged and perfected, are now open and ready for patients sent there by the medical profession. They are under the supervision of an experienced balneologist, and are for such persons only as are sent by their medical attendants with instructions of what form of bath they are to receive. They are intended to fill the place of the many unscientific bathing institutions where patients are often promiscuously steamed, overheated, or unduly chilled, and more harm done by them than good accomplished.

A bathing establishment thus conducted is a great convenience in any city.

BOOK REVIEWS.

TRANSACTIONS OF THE MEDICAL SOCIETY OF NEW JERSEY. 1883. 8vo.

This is an admirably printed volume of 398 pages, containing the minutes of the meeting, addresses, essays, and reports of the district societies. In the minutes we find that:

"Dr. E. M. Hunt introduced the following:

"WHEREAS, The American Medical Association has, at its late meeting, made new requisitions of delegates before their names were allowed to be enrolled;

"*Resolved*, That in nominating delegates to that body, the nominating committee be requested to confer with our Committee on Ethics, and, if they think necessary, with this Society, as to the propriety of this course, and what action needs to be taken in reference thereto.

"After considerable discussion, the vote on the motion on the adoption of the resolution was taken by the raising of hands, with the following result: Ten in favor and thirty-two against. The motion was declared lost."

The Committee on the Curriculum of Medical Study made an important report, but there is no record on the minutes as to how it was received. It was recommended that a board of examiners be appointed, to pass upon the credentials of all persons contemplating the study of medicine in the State, and to examine such persons as fail to present a diploma from some respectable college or university, or a certificate of a completed course in a reputable academy or high school where certain (specified) branches are taught. That this be done by the State Medical Society, and that it require the district medical societies to make it a condition of membership that every physician belonging to or coming into them obligate himself to receive no person under his care as a student of medicine without the certificate of the board of examiners. That the medical societies of the several States be requested to actively coöperate, and that the National Medical Association be requested to signify its approval, aud to use its influence to secure the general adoption of such measures.

The address by the President, Dr. John W. Snowden, takes for its theme: "The Advances Made in Medicine by Physical Diagnosis." Dr. Joseph Parrish has an essay on "Insanity and Its Problems," and Dr. George Bayles one on "Causes of Melancholia." Dr. Charles J. Kipp writes on "The Management of Cases of Iritis," and Dr. David Warman on "Professional Fees and Professional Honor;" while Dr. Stephen Wickes, in 124 pages, has an exhaustive article on "Sepulture; Its Methods and Requisites." This article forms a book in itself, and is provided with an admirable index. The report of the Standing Committee gives reports from all but two of the district societies, and these reports give the details of much valuable clinical material, to which is added the obituaries of thirteen deceased members.

TRANSACTIONS OF THE MINNESOTA STATE MEDICAL SOCIETY, 1883.—These Transactions come to us with a very satisfactory muslin-backed pasteboard cover—inexpensive, substantial, and quite sufficient for the purpose. If other societies could only be induced to follow this example, some of their volumes of proceedings would more easily find a place on library shelves. Among the valuable and interesting reports, the one on Practical Medicine discusses diphtheria from various standpoints, giving the special features of individual epidemics as elicited by correspondence from different parts of the State, and includes an account of an advanced case of cerebral softening where the patient had become almost a perfect automaton. The report of the Committee on Surgery gives, among other interesting cases, an admirable lithograph, with details of a case of pistol-shot through the stomach and kidney, with recovery. This report also includes two successful cases of ovariotomy. In the report on Medical Education is given the curriculum of the College of Medicine of the University of Minnesota, and we note that one chair teaches astronomy and physiology, which illustrates probably the printer's idea of the teacher's duties, rather than that of the incumbent. Some of us know how it is ourselves, with respect to printers' ideas. The Necrology embraces four obituaries, and the whole report is so full of interesting clinical details that it would be difficult, without consuming too much space, to give a more extended reference to it.

MEDICO-CHIRURGICAL TRANSACTIONS. Published by the Royal Medical and Chirurgical Society of London. Volumes LXV, LXVI.

Few of our Society Transactions can equal these volumes in their printing, binding, illustrations and general execution. They are filled with valuable material from the most prominent medical men of Great Britain, and the coloring of the illustrations is ahead of anything we have yet attempted. To be sure, the membership comprises over 600 names. The articles are comparatively short, but embrace a wide range of subjects. The cases detailed in Vol. LXV have for the most part already appeared in the current medical literature, but are here given more *in extenso*, with pertinent discussion. We find here Jonathan Hutchinson's two cases, with an illustration, of vaccinia gangrenosa and vancilla gangrenosa; John H. Morgan's two cases of congenital macrostoma, with an illustration; H. Langley Browne's successful case of simultaneous ligature of the carotid and subclavian arteries for innominate aneurism; Spencer Wells' complete excision of the gravid uterus at the sixth month, with epithelioma of the cervix; Reginald Harrison's enucleation of a tumor of the prostate; Berkeley Hill's removal of a fibrous polypus of the bladder, and three cases of tumor arising from skin-glands in the dog, by Dr. Charles Creighton. T. M. Girdlestone recommends highly the long, even tendon from the tail of the kangaroo as having all the valuable properties of the catgut ligature, without any of the defects. Francis Henry Champneys has a third communication on artificial respiration in

still-born children. Dr. Angel Money discusses the great frequency of cardiac murmurs in the puerperal state. Henry Morris has two cases of unreduced and two cases of reduced dislocation of the hip. Dr. Samuel Fenwick discusses the variations in the amount of sulpho-cyanide of potassium in the saliva of persons affected with different diseases. Thomas Bryant reports a successful case of lumbar colectomy. Sir Henry Thompson gives a case of successful removal of tumor of the bladder. Timothy Holmes discusses wounds of the theca vertebralis. Dr. Felix Lemon has two cases of laryngeal growths successfully removed by galvano-caustic operations. Timothy Holmes discusses thyrotomy, and Dr. Sidney Ringer and Dr. Harrington Lainsbury have a lengthy article, with graphic tracings, illustrating the action of the salts of potash, soda and ammonia, on the frog's heart. Sir James Paget gives 7 additional cases of osteitis deformans, and J. N. C. Davies-Colley gives the notes of two cases of malignant pustule, with an admirable illustration of the character of the pustule *in situ*, and its microscopical appearances. This closes the volume.

Volume LXVI contains, in order, the address of John Marshall, as the President, who limits himself to a full and interesting reference to the lives and work of deceased members, which includes, among others, such names as Sir Thomas Watson, our own J. W. Draper, and Charles Darwin. Mr. Richard Barwell has an article on "Dislocation of the Foot with Version and Torsion of the Astragalus;" Mr. Frederick Treves on "Resection of Portions of the Intestine;" Mr. Christopher Heath gives "A Case of Aneurism of the External Carotid Artery," and Mr. Howard Marsh one of "Aneurism of the Arch of the Aorta," with admirable illustrations. Dr. Francis Warner details a case of ophthalmoplegia externa complicating Graves' Disease. Dr. Vasy Lyle describes the endemic hæmaturia of the south-east coast of Africa, agreeing with the other authorities that it is due to the presence of the bilharzia hæmatotrium, but can throw no light upon the manner in which it is introduced into the system—impure water seems to be the most probable source. Dr. Percy Kidd contributes to the "Pathology of Diphtheritic Paralysis." Mr. Alfred Willett and Mr. W. J. Walsham give "A Second Case of Malformation of the Left Shoulder Girdle"—this malformation consisting of a triangular bridge of bone stretching between the spinal column and the scapula, and an abnormal development of the supra-scapular epiphysis, being homologous to the supra-scapular bone of some of the lower vertebrata. The movements of the scapula were restricted, but not prevented, by a hinge at the junction of the scapula and the bridge of bone. It was removed by an operation which resulted in a greatly increased freedom of motion on the part of the scapula. Dr. Thomas Barlow discusses cases described as "Acute Rickets" as probably a combination of scurvy and rickets, the scurvy being an essential, and the rickets a variable element. Mr. Herbert W. Page gives a case of subperiosteal hæmorrhage (probably scorbutic) of three long bones in a rickety infant, and Mr. Arthur E. J. Barker a case of cavernous nævus of the rectum proving fatal in an adult from hæmorrhage. A lengthy and valuable paper by Dr. Samuel West gives a case of purulent pericarditis treated by paracentesis and by free incision, with recovery, which is followed by the statistics of paracentesis pericardii. Dr. Angel Money places on record two cases of gliomatous enlargement of the pons varolii in children. Sir Spencer Wells details a case of excision of an enlarged cancerous kidney; Mr. John Marshall a case of suppurating traumatic hæmatoma connected with the left kidney, and treated by puncture and antiseptic drainage. Mr. Thomas Colcott Fox discusses urticaria pigmentosa, or xanthelasmoidea, and Sir Henry Thompson gives twelve cases of tumor of the bladder. Dr. George Thin, on the bacillus of leprosy, tells us of his investigations in specimens of leprous tissue in three cases from China, and one from the West Indies. The specimens were removed from the living patients, and immediately placed in alcohol. The bacilli were stained as in tubercle bacilli, and were found in the leprous infiltrated skin—none in the sound skin. In one section bacilli were found in the epidermis, in cells which Dr. Thin believes to be white blood corpuscles. In another the bacilli were found in two lymph corpuscles lying in the lumen of a lymphatic vessel. These facts give rise to a theory on his part, that the lymph corpuscles are one of the media by which the bacilli are carried from one part of the body to another. Mr. Seymour J. Sharkey gives a very interesting case of asymmetry of the brain, where the left hemisphere was generally smaller than the right, this inequality being due to the reduced size of the individual convolutions, with the exception that the angular and superior temporo-sphenoidal convolutions were absent. Accompanying this was a marked diminution in size of the right arm and leg, the right arm being rigid. The patient, who died at 25 years of age, from her birth had been left-handed and a little lame, but there was no peculiarity in her eyes or speech. The corpora quadrigemina were well developed, and equal on both sides. The left optic tract was very much smaller than the right, but the right optic nerve was but slightly smaller than the left.

ELEMENTS OF SURGICAL PATHOLOGY. By AUGUSTUS J. PEPPER, M.S., M.B., London; F.R.C.S. Eng.; Fellow Univ. Coll., London; Surgeon to St. Mary's Hospital, Teacher Practical and Operative Surgery at the Medical School. H. C. Lea's Son & Co, Philadelphia, Pa. Pp. 503. Eighty-one Engravings. (From Jansen, McClurg & Co., Chicago, Ill.).

This is one of the series of small volumes for elementary study issued under the title of Manuals for Students of Medicine. It is similar in form to the volume on Applied Anatomy mentioned recently (p. 734) in these columns. These little books fill a gap in medical literature between the bulky systematic treatises on the one hand, and the worthless and trashy *vade mecums* and compends on the other.

Cui bono? asks a critic in a recent number of the *Physician and Surgeon*, since these books contain

nothing which cannot be found in the standard authorities. The answer is simple. Medical college training, like all other instruction, must be made more systematic and special, and around it must grow up a specialized literature adapted to graded teaching. The present volume, beside being a most excellent introduction to any amount of pathological research, is in itself sufficiently complete to prepare a candidate for his final examinations. Its classifications are full and clear, as well as brief. The use of flat-face type in the headings to paragraphs relieves the eye and aids quick reference. These little handbooks are bound in "limp" red covers, are in size about four by six inches, and are altogether tasteful and attractive in appearance. E. W. A.

TRANSACTIONS OF THE AMERICAN GYNÆCOLOGICAL SOCIETY. Vol. 7. For the Year 1882. Philadelphia: Henry C. Lea's Sons & Co. 1883.

Volume 7 of the society's Transactions contains a valuable list of essays and discussions by specialists in the diseases of women, in addition to which is furnished a complete Index to the gynæcological literature of all countries for the year 1881, prepared with the coöperation of Dr. J. S. Billings, U. S. A., in charge of the National Medical Library in Washington.

A list of the contributors to this volume will furnish the best criterion to its value. These are: Thomas Addis Emmett, M.D.; Joseph Tabor Johnson, M.D.; Thomas M. Drysdale, A.M., M.D.; R. Stansbury Sutton, M.D.; Fordyce Barker, M.D., LL.D.; Theophilus Parvin, M.D.; J. Knowsley Thornton, M.B.C.N.; Henry J. Garrigues, A.M., M.D.; T. Gaillard Thomas, M.D.; Samuel C. Bussey, M.D.; Ely Van De Warker, M.D.; J. Collins Warren, M.D.; William L. Richardson, M.D.; Matthew D. Mann, M.D.; W. H. Baker, M.D. Dr. Thomas' name appears a second time as the writer of a memoir of the late Prof. James Platt White, of Buffalo. E. W. A.

DOMESTIC CORRESPONDENCE.

DAVENPORT, IOWA, December 1, 1883.

EDITOR OF THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Your editorial on medical advertising, in which you take kindly pains in expressing your views on the pressing question of private institutions for the treatment of diseases, and the "necessity and propriety of such proper advertising as will make known their existence to the profession and the public," meets with my hearty second, and I believe, as you say, that the time has come when the subject should receive the earnest attention of both State and National medical organizations.

There is no doubt that all classes of ailments can be better handled and better results attained under the direct supervision of the doctor in hospitals, than when they are surrounded by so many influences that do not belong to the disease itself or the concomitants of the same.

Where patients are taken to health resorts, home, retreat, infirmary, sanitarium, or even prison, let the disease be constipation, fever, insanity, opium habit, ophthalmia, dyspepsia, or kleptomania, and put under direct charge of the surgeon or disciplinarian, the failure of proper results can be attributed more definitely to the correct cause. The basis of statistics is better defined, and therefore, in skillful and honest hands, the attainment and the standard of the profession will be raised.

Now, to make any distinction of any class as requiring special provisions, and open the gate to the specialist of any particular class, is not "the maintenance of the professional character as applicable to all," and will "invest him with a special advantage inconsistent with the equality of rights and duties pertaining to the profession." Then why be a judge as to whether one class should have special latitude or provision? That should be left to the man who has most studied the requirements of his specialty, and not dictated by the practitioner of other branches. This latitude belongs to him as much as the way he prefers to administer his medicines.

Provision, with its limitations, should be made for all by underlying principles.

The keynote to undignified advertisement is *brag*. The advertisement of special qualifications, present or former position, special attainments, peculiar advantages, extensive travels, unprecedented relationships, etc., etc., are all undignified, out of taste, and justly reprehensible.

The simple announcement of his business and the place for its transaction, when truthfully told, however, does not seem to me to be beneath the dignity of any calling in the world.

The ethics of proper advertising can on this basis be definitely prescribed; a declaration of its limits can be as definitely determined, as the present Code specifies its boundaries.

If "both public and private institutions for the accommodation" of invalids can be instituted, and they can be advertised to "the profession and the public without in the slightest degree violating any principle of ethics" the profession generally don't know how, and we would like very much to be informed, for many suffer from this misunderstanding.

Were the profession allowed to found private institutions and given the latitude in advertising of a first-class college, there would be many institutions of creditable pretensions in the hands of the regular, instead of the blatant quack. Their advantages in this respect over us in the sanitary conditions of their practice, and the extension of the field of operation, renders them close competitors in the number of cures made.

The restrictions in the manner of making oneself known, and the methods adopted under it, are such that the only way to become "eminent" in the profession is to start a college or free clinic, and thus propound to another community the enigma of free service. Does not such a proposition generally nauseate rather than appetize, and is it ever accepted as "explained away" by the projector?

As to the announcement of limitation of office

hours or special practice, I cannot see that this act either announces to the public that he is more physically able for practice the whole day, or that he is a more proficient practitioner of medicine; if anything, it would acknowledge a bodily weakness and a necessity of restricting his work, or an inability to maintain more than a part of general practice.

I agree that his announcing that he is an oculist, gynæcologist, dentist, etc., smacks of a short cut to his specialty, and it is by far the strongest presentation, to indicate that he is a member of general medicine and still belongs to it, but as to his announcing a superiority by thus designating his business, it can only be by inference at best.

I offer these thoughts as one interested in the determination of the true relation of the profession to the public, and one who labors within the pales to sustain the dignity of our calling to the best of his ability.

With respect, I am yours, E. H. H.

FOREIGN CORRESPONDENCE.

LONDON, December, 1883.

At the last meeting of the Cambridge Medical Society, a recent specimen was shown of union by bone in fracture of the ——— capsular neck of the femur. Professor Humphry pointed out that in all cases of fracture of the neck the portion adhering to the head became absorbed, and the head became united immediately to the shaft behind the trochanters. He showed several examples taken from the pathological museum. He maintained that many such examples were looked upon as cases of impacted fracture, an accident he thought impossible.

An unique structure has been erected by the Metropolitan Asylum's Board for the reception and isolation of patients suffering from infectious fevers on plans which mark a distinct departure from old ideas. The diseases admitted include not alone cases of typhus, typhoid or scarlet fever, but measles, diphtheria and small-pox. Personal inquiry having been made by the architect to the local Government Board, and visits made to the hospitals in Berlin, Heidelberg, Dresden, Paris and other cities, a pavilion containing small wards and isolation rooms has been erected adjacent to the London Fever Hospital. As yet, owing to want of funds, only three rooms have been completed, but when finished the structure will consist of twelve ward-rooms, and two nurses' or administrative rooms. Externally, the pavilion presents a bright and cheery aspect—a sort of Swiss cottage. Within, everything is spotlessly clean, glazed, highly polished and without corners. Germs will be unable to find lodgment, and the accumulation of dirt an impossibility. Where the walls join the flooring or the ceiling, or form a junction with each other, instead of the angle common in all houses, a curve is made of special concave bricks. Moreover, the walls being of glazed brickwork of different and pleasantly harmonized colors, they can be easily washed and disinfected.

Again, the whole of the doors and window frames present no ledge or crevice, all the woodwork being rounded and curved, and capable of being cleaned without the least difficulty. The flooring is constructed of concrete in a framework of iron joists, and covered with oak blocks—the combination, when thoroughly bees-waxed and polished, creates a floor which has the advantage of extreme solidity and imperviousness. By a very simple but ingenious contrivance, merely that of having deeper framework than ordinarily at the sill, each window can be kept open at the central meeting bars for the admission of fresh air. The fanlights at the upper part of the windows are skilfully contrived to fall inwards when required, and to preserve uniformity of temperature; the glazing throughout the building is of stout sheet glass, in two thicknesses, with an interspace of three-quarters of an inch. Altogether the patients will have from 150 to 180 square feet of floor space and about 2,000 cubic feet each; their wards will be heated by ventilating grates having inlet flues which will allow of a constant passage of warmed fresh air. Of the many novel features, the pavilion stands clear of the ground, and on a series of strong brick arches that rest on a square basement of concrete, the earth around which is sloped away. Dampness is thus obviated; the admission by the floor ventilators of bad air is avoided; there is a constant circulation of good air beneath and around the entire structure, and there is none of the mischief arising from the comparatively stagnant angle formed by the junction of the surface soil with the main walls. In short, the committee have obtained a building in which dank sweats are impossible, where fresh air finds ready welcome, and from which foul air is promptly and effectively expelled.

Lately there have been several cases of false and unfounded charges of malpractice brought against members of the profession in the United Kingdom. A testimonial has been started in order to recoup Messrs. Bower and Keates, who had an action for damages brought against them by the father of a child who died after having tracheotomy performed for diphtheria. The father was told the only chance to save the child's life was to suck the tube, which had become blocked. He did so; the patient lived two days after the operation. The parent alleged he also suffered from diphtheria, and the nature of the disease his child suffered from was not explained to him. The evidence did not prove the man really suffered from anything more than an ordinary sore throat, and the verdict was given for the defendants. It is now proposed that a fund should be raised by the profession for the defense of members against whom charges may be brought.

The recent discussion about the weight of Turgienieff's brain has led to the publication of an article on the subject of the weight of brains by a Russian scientist, M. Nikiloroff, in the *Novosti*. According to him the weight of the brain has no influence whatever on the mental faculties. The average weight of a man's brain is, according to Luschka, 1.434 grammes, of a woman's, 1.272 grammes. The maximum weight is said to be 1.600 grammes, and the minimum 800 grammes. The brain of the celebrated mineralogist, Haussmann, weighed 1.206 grammes. It onght to be remembered that the sig-

nificance of the weight of the brain should depend upon the proportion it bears to the dimensions of the whole body and to the age of the individual. Byron died at the age of thirty-six, and the great geometrician Gauss, at seventy-eight years of age; the brains of the two should, therefore, not be compared. It is equally important to know what was the cause of death, for long disease and old age exhaust the brain. To define the real degree of development of the brain, it is, therefore, necessary to have a knowledge of the condition of the whole body, and as this is usually lacking, the mere record of weight possesses little significance.

STATE MEDICINE.

SANITARY REPORT FROM CONNECTICUT.

BY DR. C. W. CHAMBERLAIN, SECRETARY OF STATE BOARD OF HEALTH.

MORTALITY IN SEPTEMBER.

	HARTFORD.	NEW HAVEN.	MERIDEN.	WATERBURY.	NEW BRITAIN.	BRIDGEPORT.	NORWICH.	NEW LONDON.	MIDDLETOWN.	KILLINGLY.
Total deaths	86	86	26	37	23	46	27	19	19	6
Monthly death-rate	20	14	14	18	17	13	13	15	15	10
Zymotics	44	15	10	14	7	11	8	4	5	2
Infantile	32	30	7	5	10	15	12	5	..	1
Nervous diseases	4	14	4	1	2	3	..	..	5	1
Heart diseases	4	4	..	..	..	1	1	..	2	..
Scarlet fever	1	..	2	..	1	..	..	..	..	..
Typhoid fever	3	3	3	9	1	..	3	..	..	1
Typho-malarial fever	..	1	2	..	..	..	..	..	1	..
Malarial fever	1	2	..	..	1	..	..	..	..	..
Diphtheria and croup	32	2	..	1	..	..	..	1	1	..
Measles	..	..	..	..	..	..	..	..	..	..
Whooping cough	1	1	..	..	..	..	1	..	..	..
Infantile diarrhœa	3	6	3	2	4	5	1	..	1	1
Diarrhœa and dysentery	..	..	..	2	..	3	1	..	1	..
Consumption	13	12	3	11	4	9	4	2	3	..
Pneu'ia and acute lung	..	4	..	..	..	1	..	..	..	..
Old age	3	..	..	..	..	..	..	..	..	..
Railroad accidents	1	..	..	..	..	..	..	..	..	..
Accident and violence	3	6	4	1	1	4	..	1	..	..
In public institutions	8	6	..	..	..	..	..	..	6	..

The sanitary history of the month is, on the whole, more favorable than that of the same month in previous years. The death and sickness rate is not large except in a few places where the prevalence of some one form of disease to an unusual degree swells it, and even then there are no generally diffused types nor any that can be strictly called epidemic, except it be malarial diseases in some instances; nor does the rate in any of the cities reach a degree to cause alarm. The decrease in diarrhœal diseases partially accounts for this, as the table shows a decrease of nearly half from 1882, or 60 in place of 33 this year. This indicates also a corresponding decrease in the number sick—on an average eight cases for each death. In the table two or three classes of diseases only are considered, so that the columns if added do not equal the total number of deaths given. Thus the deaths from the causes given in the first column equal 55, the deaths in the month 86, the difference, 31, indidates the deaths from other causes not enumerated, as cancer, Bright's disease and the whole list not included in our discussion. The month is treated as if it were a year, so that the rate of September in 1883 is compared with that of September of previous years. The only trouble is in the February of leap-year, which is one day longer than other Februarys.

The prevalence of diphtheria in Hartford shows increase during the month, since then it waned, and now is prevalent as ever, *i. e.*, at the date of this writing. The mortality was 10 in June, 20 in July, 28 in August, and 32 in September—90 in all. So far, defective local plumbing, and especially unventilated drainage pipes in the house, and the use of cesspools and privy vaults in unclean by-streets and localities, still seem to be the principal contributing agencies. That it is a filth disease is shown by repeated instances. In one case where several members of one family died from this cause, the sink pipe had discharged into the cellar for a long time, creating a putrescent mass and saturating the soil where no sun nor air could reach it. Unfortunately, the cause was not discovered until the mother and all her children had perished. Similar instances are reported often, and greater care is the result among the thoughtful and wise. In looking up the surroundings where several members of a family have died from diphtheria, and scarlet fever as well, I have again and again found similar conditions. Oftener, however, the sink drainage percolates through the cellar wall or runs down half outside it and half inside. One would not suppose that privy vaults used by a whole family would be tolerated in a corner of the cellar, yet I have several times found such a state of affairs where there had been repeated deaths from filth diseases in families that have successively occupied a house. The outbreak of diphtheria or scarlet fever where local conditions have been suspected, is a strong proof of their unsanitary condition.

The increase in the prevalence of typhoid fever is seen forcibly when the mortality is compared with that from malarial fevers. Thus, in the present year the deaths in the cities reported are, from typhoid fever 23, all varieties of malarial, 8; in 1882, typhoid fever 21, malarial 23; in 1881, typhoid 7, malarial 18 (this is for September). The decrease in the mortality from malarial fever is quite regular. It is true that the total from typhoid is increased by its prevalence in Waterbury; but in quite a large area the reports show a similar increase of typhoid and decrease of malarial fevers. In Waterbury malarial diseases never have been the governing type, as far as I can learn. The amount of typhoid fever in Waterbury has, as is usually the case, been exaggerated. The dry weather, low water, and soil upheaval for sewers are all the factors yet charged. Perhaps there is some general influence whose laws we do not yet know that should be added to these.

The outbreak of scarlet fever in South Manchester and the unusual prevalence of diarrhœal diseases in children and adults in comparison with the rest of the State, are corroborative of the statements last month relative to the areas of sewage deposit and decaying organic matters exposed by the unusually dry season,

The scarlet fever in Hartford is adjacent to the cases of diphtheria, as far as I can learn.

Diphtheria is reported from New Hartford—several cases in one family—with a tendency to invade the larynx. Typho-malarial fever is reported from several towns near Manchester, and several cases also from Manchester by Dr. Griswold, who relates a case of suicide by the use of some salt of cobalt, not a usual agent for this purpose. A few cases of diphtheria are reported from Pleasant Valley, also Riverton, Avon and Suffield—one fatal in the latter place. In Winsted it is stated to be somewhat common. Scarlet fever is reported as prevalent to some extent in New Canaan, and to have appeared in Avon, in addition to the places already mentioned, Measles are not so common; from Hampton and New Canaan mention is made of the presence of the disease. Westport has, in addition to some malarial cases, a few of whooping-cough and tonsillitis.

From Cheshire several deaths are reported from typho-malarial fever; malarial and typhoid fevers are reported from Plainfield, but less of the latter than usual. This is one of the towns recently invaded (comparatively) by malaria. Also from Avon; Suffield, where the number is the same, but one case of typhoid was fatal; New Canaan the same, but no typho-malarial, of which there was one case in Suffield; a sudden death on the road from heart disease occurred in Hampton and a machinery accident in Saugatuck.

An unusually healthy month is reported from Haddam, Greenwich and Oxford, with little disease except malarial, and also from Plainville and Willington. Several cases of lung fever are reported in one or two places—more than is common for this season.

HEALTH IN MICHIGAN.

Reports to the State Board of Health, Lansing, by observers of diseases in different parts of the State, show the principal diseases which caused most sickness in Michigan, during the week ending December 8, 1883, as follows:

NUMBER OF OBSERVERS HEARD FROM, 41.		For preceding week.
DISEASES ARRANGED IN ORDER OF GREATEST AREA OF PREVALENCE.	Per cent. of observers who reported the disease present.	Per cent. of observers who reported the disease present.
Rheumatism	71	61
Intermittent fever	66	55
Neuralgia	63	66
Influenza	49	41
Tonsilitis	46	50
Bronchitis	46	61
Consumption, of lungs	46	52
Remittent fever	34	36
Pneumonia	32	30
Diarrhœa	27	30
Inflammation of kidneys	24	25
Whooping-cough	22	18
Erysipelas	28	30
Scarlet fever	20	23
Measles	15	16
Typho-malarial fever	15	18
Typhoid fever (enteric)	15	11
Diphtheria	15	23
Inflammation of bowels	15	18
Dysentery	11	7
Puerperal fever	7	9
Inflammation of brain	5	5

For the week ending December 8, 1883, the reports indicate that intermittent fever, rheumatism and influenza increased, and that bronchitis, erysipelas and diphtheria decreased in area of prevalence.

At the State Capitol, the prevailing winds, during the week ending December 8, were southwest; and, compared with the preceding week, the temperature was slightly lower, the absolute and relative humidity and the night ozone slightly more, and the day ozone the same.

Including reports by regular observers and by others, diphtheria was reported present during the week ending December 8, and since, at fifteen places, namely: Antwerp, Big Rapids, Detroit, Leslie, Mattawan, Manistee, Monroe, Niles, Novi, Pierson, Pontiac, Port Huron, Riley Center, Six Lakes, Ypsilanti. Scarlet fever, at twenty-three places: Adrian, Battle Creek, Clifford, Detroit, Ensley, Ironton, Kalamazoo, Manistee, Monroe, Maple Valley, Medina, Memphis, North Shade, Newport, Owosso, Oxford, Pontiac, Port Huron, Plymouth, Reynolds, Roxand, Salem, Winfield. Measles at nine places: Alpena, Brooklyn, Clinton, Cedar Springs, Charlevoix, Eagle, Gaines, Monroe, Richmond.

HENRY B. BAKER, Secretary.

Lansing, Dec. 12, 1883.

NECROLOGY.

THAYER, SAMUEL WHITE, A.M. M.D. L.L.D., was born at Namtree, Vt., May 21, 1817; died at Burlington, Vt., Nov. 14, 1882. He was the oldest son of Dr. Samuel White Thayer and Ruth Packard Thayer, formerly of Thetford, Vt. His early life was passed in his native town until 1832, when his parents removed to Thetford for the better advantages of Thetford Academy. Here he fitted for college, intending to take a college course at Dartmouth, but circumstances proving unfavorable, he commenced the study of medicine in his father's office in 1835. His first course of lectures he took at Dartmouth. In 1837 he was elected demonstrator of anatomy at Woodstock, (Vermont Medical College), which position he occupied until 1841. He graduated at the latter institution in 1838, and in 1840 settled for medical practice at Northfield, Vt. He remained here until 1854 in an extensive practice of medicine and surgery, when he removed to Burlington, Vt., partly for the purpose of assisting to sustain the Medical Department of the University Vermont. A medical school had existed here from 1823 to 1836, during which period about 114 students had graduated from it, but finally it closed for want of support. Ever since 1850 Dr. Thayer had been persevering and untiring in efforts to enlist sufficient influence to reorganize the school.

In 1853, with the assistance of President W. Smith, ex-President Wheeler, Prof. Benedict, and others, a corporation was formed, and the following Board of teachers were elected, viz.: Professor of Surgery, S. W. Thayer; Professor of Theory and Practice, Orrin Smith; Professor of Anatomy, Levi Bliss; Professor of Chemistry, Ezra Carr.

Some of these failed to appear, and Dr. Thayer, calling to his aid Dr. Nelson, sustained the college during its first term, delivering the first course of lectures. He was almost alone during its second course of lectures, himself delivering two lectures a day for four months, upon nearly all the branches of medicine, besides attending to a large private practice. As the college grew in favor and made advancement, he made a present to it of a large collection of specimens which he had collected for its museum. He served with energy and ability as Lecturer, Dean, Secretary, etc., in the college until 1872, when he was made Emeritus Professor of Anatomy.

When the war of the Rebellion broke out, he was appointed by Gov. Fairbanks Chairman of the State Board of Medical Examiners; his associates being Dr. E. E. Phelps, of Windsor, and Dr. S. Newell, of St. Johnsbury. He examined every medical officer of Vermont regiments, and many enlisted men. In 1864 he was appointed by Gov. Smith Surgeon General of the State of Vermont. In this new office, which had been created by the Legislature the same year, without material or precedent, he proved himself very efficient, with every arrangement necessary for providing for the sick and wounded, whether in the field or in hospitals at home. He assisted in establishing three military hospitals, at Montpelier, Brattleboro and Burlington, furnished with capable and efficient medical officers. Dr. Thayer also held a commission as Assistant Surgeon, U. S. A., and at the close of the war was breveted Medical Director.

In May, 1870, Dr. Thayer went West to Minnesota and along the line of the Northern Pacific R. R., and organized a medical service for the care of the employes constructing the road, such as has since been adopted by many other roads.

In 1872 he went to the Pacific coast in company with the officials of the N. P. R. R., along its proposed route to its terminus in Oregon. While on this route, he, with his accustomed energy, made a large collection of the woods, grains and grasses native to the region, which he afterwards exhibited at the Vienna exposition, and allowed to remain there by request of the Commissioners. He returned to Burlington in 1873, to his home, and resumed his practice of medicine and surgery.

In 1866 he received an honorary degree of A.M. from Dartmouth College.

In 1877 the University of Vermont conferred upon him the honorary degree of LL.D.

In 1867, or about that time, an accident happened to Dr. Thayer, which threatened his life, and seriously affected his health ever afterwards. In amputating a gangrenous leg he cut or scratched his hand, through which wound, slight as it was, he received poison into his system, septicæmia, from which he never fully recovered, and which had much to do in breaking down his constitution, and thereby inducing the disease that caused his death. Previous to this accident he had shown a fondness for travel, and had in 1855 visited Nova Scotia and other British provinces. In 1867 he made a trip to Europe, spending some months traveling in England, Scotland, Ireland, France, Germany, Switzerland, and Italy.

In 1869 he went in company with ex-Governor Smith, Rev. Dr. Lord, C. C. Coffin and others, through the wilds of Minnesota, Dakota, and along the route of the Northern Pacific Railroad.

In 1874 he made a second trip to Europe. In 1876 he went to Bermuda, returning via West Indies. He also made a tour through Florida aud other Southern States.

In 1878, in company with his long time friend, Col. John L. Merriam, he made a tour around the world, going via San Francisco, Yokohama, and India, and returning through Europe.

In 1882 he made his last long journey, to St. Paul, as delegate to the American Medical Association; from there with his friend, Col. J. L. Merriam, to Montana and to the Yellowstone Park, returning to his home in Burlington in July.

Soon after his return he was attacked with the painful disease which caused his death, gangrene of the foot, senile gangrene. He suffered with great fortitude the most intense agony, attended by skillful medical men, who combined the office of friend with medical adviser.

Dr. S. W. Thayer was a very skillful surgeon, the leading surgeon of the State. His operations include nearly or all of the most difficult which have ever been performed in Vermont. He was, as a general practitioner, a man of good judgment, of rare good sense. He was remarkably unselfish, and generous to a fault. He died universally lamented. The poor, the rich, all classes mourned him as a dear personal friend.

At his burial the entire city did him reverence—flags at half-mast, all places of business closed, all the bells of the city tolled. His bier was covered and his grave was filled with the choicest flowers, all moistened with tears. So departed our dear friend, our beloved physician.

Dr. Thayer was married Jan. 6, 1841, to Sarah Louisa, daughter of the late John A. Pratt, of Windsor, and she, with one son, Dr. Charles P. Thayer, survives him.

O. F. FASSETT, M.D., of Vermont.

ELIOT, JOHNSON, A.M., M.D., P.H.D., one of our best known physicians, was born in the city of Washington, August 24, 1815; died at his residence, 510 E Street, of pneumonia, Dec. 30, 1883.

He was descended from early and distinguished colonial settlers of Massachusetts and Maryland. His father, Samuel Eliot, Jr., of Puritan stock, through the "Apostle to the Indian," and nephew of Andrew Eliot, President of Harvard College, came to Washington shortly after it was selected and laid out as the permanent seat of the United States Government, about the time, or shortly before, Mr. James Greenleaf, Dr. Frederick May, Judge William Cranch, and others from Massachusetts settled here. Samuel Eliot engaged in business, and a few years later married Mary, daughter of Gov. Thomas Johnson, one of the three commissioners for laying out the city of Washington, and ex-Governor of Maryland, the personal friend of General Washington,

and throughout the Revolution one of the most active and influential patriots, who was appointed by President Washington Associate Justice of the Supreme Court of the U. S. in 1791. A first cousin of Mrs. Eliot, Louisa, second daughter of Joshua Johnson, married John Quincy Adams in 1797.

The subject of this notice was educated in the District of Columbia at the McLeod Seminary. Losing his father at 13 years of age, he entered the drug store of Dr. McCormack, and there studied pharmacy. In 1839 he began the study of medicine with Dr. Thomas Sewall, and about the same time received an appointment of steward in the Washington Naval Hospital; but the duties of that position did not interfere with his medical studies. He attended lectures in the Medical Department of Columbia University, where he graduated M.D. in 1842, and immediately after was appointed Demonstrator of Anatomy in that institution.

He opened an office on Seventh street, between G and H, where, by strict attention to his duties, he speedily acquired business.

He became a member of the Medical Society of the District of Columbia in 1843, and the same year joined the Medical Association of the District of Columbia.

He, with Dr. Noble Young, were the originators of the Medical Department of the University of Georgetown. Dr. Eliot was assigned the chair of anatomy, which he filled acceptably until he was, at the request of the Faculty, transferred to the chair of surgery. The latter position he held until he retired from the active duties of teaching, in 1876, accepting the position of emeritus professor of surgery and professor of clinical surgery. While not a fluent speaker, his exact knowledge of anatomy, and the subjects he taught, enabled him always to interest his hearers.

For the last sixteen years of his active connection with the college, he served as Dean of the Faculty.

For many years his practice was extensive and exacting, and early in his professional career he became recognized as one of the leading surgeons of the District. He has performed with success many capital, and some of the most difficult operations in surgery, including that of ovariotomy four times. Dr. Eliot has been for years connected with the management or on the surgical staff of Providence Hospital, Columbia Hospital for Women, and the Children's Hospital, which position he held at the time of his death. He was well read and widely informed on all matters connected with his profession, was careful in diagnosis, dextrous and skillful in operations, attentive and conscientious in the discharge of all his duties as a physician.

Besides his addresses at college openings and commencements, which were published, he contributed some valuable articles to the *American Journal of Medical Science*, and to other medical periodicals, including the "Transactions" of this Society. The following list of his publications, though known to be incomplete, is nevertheless presented:

Valedictory to the graduating class of the Medical Department of Georgetown University. 14 pp. 8vo. 1856.

Address delivered at the eighteenth annual Commencement of the Medical Department of Georgetown University. 12 pp. 8vo.

Address delivered at the twenty-third annual Commencement of the Medical Department of Georgetown University, 11. pp. 8vo. 1872.

Excision of Inferior Maxillary Bone, Left Side. Transactions Medical Society of the District of Columbia, Vol. V, p. 53-54. 1878.

Palato-Pharyngeal Tumor. *Amer. Jour. Med. Science*, Vol. 78, pp. 70-78. Phila. 1879.

Reprint of same. 3 pp. 8vo. 1879.

Successful Ovariotomy. *National Med. Review*, Vol. I, p. 4. 1879.

Dr. Eliot was always an active supporter of medical organizations, and a frequent participant in discussions, and presented various pathological specimens to this society, and read written reports of cases.

Beside the societies named, he was a member of the Pathological Society of Washington, organized in 1843; a member of the Section on Medicine of the "National Institute," which met at the Smithsonian Institution, and at one time sent delegates to the American Medical Association.

As an instance of his fidelity to professional duty and courage under trying circumstances, we will mention a single fact: After one of the severe battles of the late war (I think Chancellorsville), a call was made for volunteer surgeons. Dr. Eliot immediately provided himself with all the appliances necessary for immediate surgical dressings and for surgical operations, repaired to the front, and reported to the officer in command his readiness to serve as surgeon. He was at once assigned to duty. The whole night and next day were spent in most laborious professional work, with no rest and meager refreshments. The operating-room was a deserted house. The doctor worked on, regardless of self, absorbed in his desire to relieve as many of the wounded as possible. He neither knew or thought of the position of the contending armies. Suddenly he was informed that the Rebel cavalry was surrounding the hospital. He still continued his labors, and among those who had received his attention during the night and forenoon were several wounded Confederate soldiers. No parley, however, would be listened to, and Dr. Eliot was marched off a prisoner. He represented the humanity of his science so ably that his case was promptly reported as a non-combatant volunteer surgeon, and he was in a few hours paroled by Stonewall Jackson.

Dr. Eliot joined the American Medical Association in 1858, and attended its meetings in 1865, '67, '68, '70, '73, '74, '75, '76, and 1880.

He has at different times filled most of the offices in the Medical Society of the District of Columbia, including the presidency in 1874. He has also held most of the offices in the Medical Association of the District, and has been a most constant supporter of medical ethics. He was a member and Vice-President at the time of his death of the Alumni Association of Georgetown University. He was professionally connected with the Central Dispensary as consulting surgeon from its organization in 1871.

Dr. Eliot was a uniform and earnest friend of young practitioners, supporting, advising and directing them in their management of difficult cases. He loved his profession, and desired that every member should win and enjoy in it an honorable position.

He was himself the soul of honor, and never intentionally gave offense or took any undue advantage of a brother practitioner. In 1861, '62, '63 and '64 he served as physician to the city small-pox hospital, and in the year 1869 was appointed one of the surgeons to the "Metropolitan Police" of the city, and held the position to the time of his death. For many years he has been consulting surgeon to "St. Ann's Infant Asylum." In 1850 Dr. Eliot was united in marriage to Mary John, daughter of John Llewellyn, Esq., of St. Mary's county, Maryland, who with six children, three sons and three daughters, survive him. His oldest son, John Llewellyn Eliot, studied medicine, and for some years has been in practice with his father. His oldest daughter is married to Dr. Valentine McNally, chief clerk of the Ordnance Department.

A special meeting largely attended was held by the Medical Society of the District of Columbia on the announcement of Dr. Eliot's death, at which many members spoke of the long acquaintance with the deceased, and the great regard for his character. The judgment of the meeting was voiced in a series of resolutions, which were published in the daily papers. The Faculty of the Medical Department of the University of Georgetown held a meeting and passed resolutions of regard for the memory of the old and valued collegian. The "Alumni Association of Georgetown University," also held a meeting and passed resolutions of respect for his memory. The Medical Board of Providence Hospital, the Board of Directors of the "Childrens' Hospital," and the Directors of "Columbia Hospital for Women," each held special meetings and passed appropriate resolutions appreciative of Dr. Eliot's life and labors. His funeral took place Wednesday morning, January 23, 1884, at 10 o'clock, from St. Aloysius church, where a funeral mass was celebrated and a brief sermon preached by the Rev. Father Murphy. The church was well filled by the profession and friends of the doctor, many of whom joined in the long cortege as it marched to Mount Olivet Cemetery, where the remains of the good physician were placed to rest.

J. M. T.

ST. LOUIS MEDICAL SOCIETY.—At a recent regular weekly meeting of this society, the following is reported as a part of its proceedings:

Dr. Atwood, from the Committee on Ethics, reported the resolution of Dr. Pollak, offered at previous meeting, protesting against the custom of physicians holding chairs in medical colleges advertising themselves in the circulars and catalogues of the colleges. The report states that such advertising is not only a violation of the Code of Ethics, but highly reprehensible, tending to lower the standard of the profession and to bring into disrepute medical colleges; also, that the reference in such circulars to clinical practice and free dispensaries was also a violation of the Code. The report was adopted.

MISCELLANEOUS.

THE TUBERCLE BACILLUS.

[To the Editor of the *Canada Lancet*.]

SIR:—I send you the following lines, which you may thing worth inserting: "A saturated watery solution of carbolic acid, even though it acts as long as fifteen minutes, is not sufficient to arrest the development of the tubercle babilli."—*Braithwaite*, July, 1883; p. 73.

What say you, Koch, can this be true?
(The very statement seems to chill us);
Is there, then, nothing we can do
Against this terrible bacillus?

A molecule, brandishing fell darts,
Arm'd, in the air, to meet and kill us;
Or burrowing in our vital parts,
Oh, dread, invincible bacillus!

Monster! in microscopic space,
Who doth with seeds of death instil us;
Hast thou no vulnerable place,
No heel like that of old Achilles?

Has science nought for such a foe,
(Just as new hope began to thrill us)?
Come! who will strike a mortal blow
And vanquish the renowned bacillus?

Yours, &c.,
THOMAS W. POOLE, M.D.

Lindsay, Nov., 1883.

SURGICAL DISEASES OF THE KIDNEY.—At the annual meeting of the British Medical Association, Mr. Clement Lucas opened a discussion on "The Surgical Diseases of the Kidney, and the Operations for their Relief," of which the following is an abstract: He commenced by stating that the greatest advances in the treatment which had taken place of late years, were those made in the indefinite border-land which separates medicine from surgery. In was in this barren and desolate tract we must look for fresh discoveries. Ovariotomy and the various operations upon the intestines and stomach he put forward as instances of work recently advanced in this territory, but he claimed as the most remarkable incident of this decade, the sudden light which fell upon the profession in its relation to renal disease and the rapid growth and recognition of renal surgery. The credit of having awakened a new interest in renal diseases, and of having, by experiment on the lower animals, made sure of his ground, was due to the late Professor Simon, of Heidelberg, who in 1869 successfully performed nephrectomy for the cure of a fistula of the ureter following ovariotomy. Since then, extirpation of the kidney has been performed upwards of a hundred times. The operation of nephrotomy has been much more frequently undertaken, and the removal of a stone from the kidney, which used only to be attempted when a sinus or tumor existed, has been several times successfully performed before the kidney had suffered any severe damage.

In casting a glance over diseases of the kidney to

determine which might admit of surgical treatment, it was necessary to exclude at once all such diseases as attack equally the two organs; hence, the various degenerations, included under the name of Bright's Disease and lardaceous disease, must ever remain outside the province of renal surgery. On the other hand, conditions which disturb the functions of one organ only, for the most part admit of relief by operation.

Painful moving or floating kidney being only a mechanical disturbance, admits of relief only by mechanical means. Simple exploration and replacement through an incision in the loin would probably be found sufficient, in the majority of cases, for the cure of this condition, the adhesion resulting, serving to retain the organ in position. Stitching of the capsule to the parietes, or, as it is termed, nephroraphy, is a somewhat serious, but still simple, undertaking. In eight cases in which it has been performed the patients all recovered and were relieved. There might still be cases where intense suffering was experienced and where the other means had failed, which would suggest nephrectomy. Martin, of Berlin, had in six cases removed floating kidneys through the peritonæum, and four of these recovered.

Hydronephrosis, a dilatation of the pelvis and calices of the kidney with watery fluid as a result of obstruction below, admitted of surgical treatment when one-sided. After detailing the various conditions of the ureter, congenital and acquired, which might give rise to this condition, the author suggested these cases should be first aspirated, then cut down upon and drained through the loin; the cyst-wall being stitched to the parietes. Finally, should the fistula fail to close, the remains of the kidney might be returned through the loin.

In women these tumors had been often mistaken for ovarian tumors and had been operated upon as such. Being movable and not forming adhesions till late, some might advocate ventral nephrectomy for these cases before drainage, but such treatment would entail more risk than the method advocated. Abdominal nephrectomy for hydronephrosis will, however, show better results than nephrectomy generally.

Large isolated cysts of the kidney having no communication with the pelvis were rare. They should be aspirated, and afterwards drained through the loin.

Hydatids of the kidney, also rare, had a tendency to discharge themselves through the pelvis. When forming tumors, they could generally be cured by aspiration or syphon-tapping.

Pyonephrosis, which resembles hydronephrosis anatomically, but contains pus instead of urine or watery fluid, when unilateral falls under renal surgery. The double pyelitis, with suppuration and distension, which commonly resulted from stricture and enlarged prostate, the author said was inappropriately named "surgical kidney." He suggested the term reflux pyelitis as better expressing this condition. Reflux pyelitis when one-sided was due to some obstruction in the ureter, and then often gave rise to a large pyonephrosis. Other causes of unilateral pyonephrosis were calculus and strumous pyelitis. After speaking of the diagnosis and stating that these tumors were more adherent, and gave rise to more pain and constitutional disturbance than hydronephrosis, he said that nephrectomy for pyonephrosis had been performed twenty-eight times, and of these seventeen recovered and eleven died, but it was most worthy of notice that among these twenty-eight cases six had previously discharged their contents through a fistula in the loin, and all these recovered. Hence, he argued, it was better to drain a pyonephrosis before performing nephrectomy.

Neoplasms of the kidney could only be treated by nephrectomy, and if this were performed early, there might be a good chance of permanent benefit. Generally they were too large to be removed except through the peritonaleum, but of five cases removed through the loin, four recovered. Out of sixteen removed by ventral incision, ten died and six recovered.

Calculus of the kidney offered an excellent field for surgical interference, but the difficulty was to make sure of the diagnosis. Many cases of supposed calculus would turn out to be strumous kidneys. Two cases were related in which the kidney was explored, and even deeply punctured, but no ill-result or rise of temperature followed, and the wounds nealed primarily. Several cases of nephro-lithotomy were recorded in the Clinical Society's Transactions, and two cases had been performed successfully at Guy's Hospital during the present year. When the kidney was much dilated and damaged, it would be a question whether it might not be better to remove it.

After briefly alluding to injuries to the kidney, which, though not included under the title of the paper, might suggest nephrectomy, the author proceeded to speak of some details in operating. He recommended for the lumbar operation a combination of two incisions which he had employed as giving the most room, viz.:—an oblique incision higher than the colotomy incision within about half an inch of the last rib and parallel with it, and a vertical incision on the outer margin of the quadratus lumborum extending from the upper edge of the last rib to the iliac crest. For the transperitoneal operation, Langenbuch's incision external to the rectus muscle was to be preferred to the median incision, as it enables the operator better to reach the kidney through the outer layer of meso-colon.

In conclusion, he urged, that antiseptic exploration of the kidney through the loin is a simple and not at all a dangerous operation, which may be undertaken without anxiety in any case where calculus is suspected; that it is generally wiser to tap and drain fluid tumors of the kidney before proceeding to remove the diseased organ; that when nephrectomy is decided upon, the extraperitoneal operation through the loin should always be chosen for any tumor it is possible to withdraw through the limited space at disposal; finally, if this course be adopted, the transperitoneal operation will be reserved for large solid tumors, and, perhaps, some floating kidneys.—*British Medical Journal.*

CASE OF BASILYSIS.—In the Section of Obstetric Medicine, at the annual meeting of the British Med-

ical Association, 1883, Dr. J. Halliday Croom described a case where this operation was found necessary:

Among the recent improvements in operative midwifery, the operation of basilysis, as a means of comminuting the fœtal basis cranii, deserves to occupy a prominent place. Devised by Dr. A. R. Simpson some years ago, and carried out by him in practice, it has, in my opinion, quite fulfilled the expectations he formed of it. I gladly take an opportunity of a recent case, which occurred under my care in the Maternity Hospital, to bring this operation under the notice of the Section. The case was as follows:

S. W., a primipara, aged 26, was sent to the Maternity Hospital on the forenoon of Sunday.

At the time of her admission she was well advanced in the second stage of labor; the membrane had ruptured early in the morning, and a loop of the cord had prolapsed in advance of the head. I saw her shortly after admission, and found the conditions as described; and further found, on abdominal palpation, a very prominent uterine tumor; the head at the brim, but unengaged, and back to the left. There were no fœtal heart-sounds to be heard.

On vaginal examination, the head was presenting, the membranes ruptured, and a loop of cord prolapsed and pulseless. The occiput was to the left, and the sagittal suture transverse. The conjugata vera diameter, gauged by the diagonalis, measured slightly less than two and a quarter inches. The pelvis was a distinct rickety one. The indications, therefore, for reducing the head were obvious. This I did with the basilyst in the following way: With the assistance of Dr. Barbour, the head was steadied thoroughly at the brim, and the basilyst introduced at the most centrally presenting part of the right parietal bone. The cranial vault was easily pierced, and the instrument pressed down through the cerebral substance to the base of the skull. While Dr. Barbour kept the head perfectly steady, I screwed the basilyst home into the base, and, closing the handle, easily effected separation of it. The head immediately collapsed, and was pushed by Dr. Barbour through the brim, with slight aid on my part with the crotchet. Indeed, the use of the crotchet was almost unnecessary, as, after the collapsed head was well pushed into the brim, its extraction was mainly accomplished by the hands *per vaginam*, aided by suprapubic pressure.

On examination of the head after birth, it was found that the basilyst had entered the right parietal bone, and then passed down to the basi-occipital, just behind the foramen magnum, and the base was found to be splintered both laterally and anteroposteriorly. The disintegration of the base of the skull was remarkably complete, as the recent preparation which I now exhibit shows; and the great diminution in the bulk of the head is obvious from the fact that suprapubic pressure was of itself sufficient, with but little aid from the crotchet, to push the head through the brim.

Remarks.—The introduction and working of the instrument are simple enough, but there is one point which, in a former case, offered some difficulty; namely, the doubt, after the basilyst has pierced the vault, as to whether it goes directly to the base. This is more apparent than real, for, if the head be well steadied, and its position distinctly made out, there can be but little risk in pushing the instrument straight on in the proper axis. Of course, in cases of extreme flexion, it will be easier to strike the center of the base than in a case of flat pelvis, where marked Naegele obliquity is combined with extension.

This is illustrated in the case I have just recorded, where the basi-occipital bone was struck instead of the sphenoid; but, as the case shows, the result was none the less satisfactory. In any case, the risk of missing the base is very slight. It has been urged against this method of comminuion and delivery, that some instrument for extraction in addition to the basilyst is required. First of all, let me point out that, in the case in point, with a head perforated at the occiput, and with a two inches and a quarter brim, suprapubic pressure was almost enough to effect delivery, and secondly, it must be kept in view that a second perforation of the base can always be performed when necessary, reducing the whole head to a veritable pulp, and allowing it to pass through the pelvis with the aid of the hands and suprapubic pressure alone. It has, therefore, the advantage over cephalotripsy and other forms of embryulcia, that delivery is accomplished without the application of any instrument external to the head.—*British Medical Journal.*

List of Changes in the Medical Corps of the Navy During Week ending January 12, 1884.

Surgeon D. McMurtric ordered to the Naval Rendezvous, Philadelphia, Pa.

Surgeon A. F. Price detached from the Receiving Ship St. Louis on the 15th, and ordered to the U. S. S. Ossipee on the 22d.

Past Assistant Surgeon A. C. H. Russell ordered to the U. S. S. Ossipee on the 22d.

Past Assistant Surgeon H. C. Eckstein detached from the Naval Hospital, Philadelphia, and ordered to the Receiving Ship St. Louis.

Past Assistant Surgeon Howard Wells from the Naval Rendezvous, Philadelphia, and ordered to the Naval Hospital, Philadelphia.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department United States Army, from January 4, 1884, to January 11, 1884.

Brown, P. R. Captain and Assistant Surgeon: assigned to duty at Fort Huachuca, A. T. (Par. IX., S. O. 119, Department of Arizona, Dec. 27, 1883.)

Havard, Valery, Captain and Assistant Surgeon: assigned to duty in charge of office of Medical Director, Department of Texas, during the temporary absence of that officer. (Par. II., S, O, 164, Department of Texas, Dec. 31, 1883.)

Egan, P. R., First Lieutenant and Assistant Surgeon: upon reporting of relief to proceed without delay from Fort Huachuca, A. T., to Fort Apache, A. T., and report to the commanding officer for duty at that post. (S. O. 119, Department of Arizona, Dec. 27, 1883.)

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